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No. 9345

United States
Circuit Court of Appeals

For the Ninth Circuit.

ADAMS COUNTY, et al.,

Appellants,

vs.

NORTHERN PACIFIC RAILWAY COMPANY,
Appellee.

NORTHERN PACIFIC RAILWAY COMPANY,
Appellant,

vs.

ADAMS COUNTY, et al.,

Appellees.

Transcript of Record

In Eight Volumes

VOLUME VII

(Exhibits)

Pages 2695 to 3156

Upon Appeals from the District Court of the United
States for the Eastern District of Washington,
Northern Division

DEFENDANTS' EXHIBIT 53

Before the Tax Commission of the State of Washington

In the matter of the reassessment of the
operating property of the Northern Pa-
cific Railway Company situated in the
State of Washington, for the years 1935
and 1936.

COMMISSION'S OPINION

The State Board of Equalization fixed the 100% assessed valuations of the operating real and personal property of the Northern Pacific Railway Company (the "N. P.") in the State of Washington for the years 1935 and 1936 as follows:

<i>Assessment Year</i>	<i>Real Operating Property</i>	<i>Personal Operating Property</i>	<i>Total Assessment</i>
1935	\$79,320,000	\$10,680,000	\$90,000,000
1936	78,349,000	10,151,000	88,500,000

In December, 1936, the N. P. instituted a suit in the United States District Court for the Eastern District of Washington, Northern Division, against the twenty-three counties through which it operates, their county commissioners and treasurers, seeking an injunction restraining the collection of a large portion of the taxes levied pursuant to the above assessments. In its complaint the N. P. alleges that the true cash market and taxable value of its railroad operating property in Washington, both real and personal, did not exceed \$37,656,065 for 1935 and did not exceed \$32,078,647 for 1936.

It having appeared to the Tax Commission (the "Commission") from an examination of said complaint and the facts upon which the same was based that an error in taxation had occurred in the assessment of the N. P.'s operating property for 1935 and 1936 in the method followed by the Commission in arriving at

the N. P.'s commercial* system value and in the apportionment thereof to the state, and that as a result of such error such assessments each appeared to be excessive, the Commission, on June 8, 1937, pursuant to chapter 106, Laws of 1931, adopted a resolution declaring its intention to reassess said property for the years 1935 and 1936, and thereafter notice thereof was duly published and personally served upon the N. P., and mailed to the prosecuting attorney of each county affected. On July 15, 1937, at 2:00 o'clock p. m., the time fixed for the hearing on such reassessment, the N. P. appeared by its attorneys, L. B. daPonte and Robert S. Macfarlane, and submitted to the Commission as its showing, only the computations, set-ups, etc., theretofore submitted to the Tax Commission and to the State Board of Equalization at the hearings afforded said Company on its original assessments in 1935 and 1936. The Commission was represented by R. G. Sharpe, assistant attorney general.

The Commission thereupon served upon the N. P.'s counsel typewritten statements setting forth certain data and figures it then believed pertinent and not appearing in the Company's annual reports to the Commission, and adjourned the hearing until July 29, 1937, with the understanding that other data believed by the Commission to be pertinent to the inquiry would be served upon counsel for the company prior to said adjourned hearing. On July 24, 1937, the Commission, by resolution duly adopted and served on the N. P.'s counsel and the interested prosecuting attorneys, continued said adjourned hearing to August 16, 1937, at 10:30 a. m.

On August 9 and 13, 1937, the Commission caused to be served upon counsel for the N. P. further typewritten statements setting forth all the data and figures set forth or referred to in this opinion, together with appropriate references to those parts of the printed records in the cases of *Adams County et al. v. Spokane, Portland & Seattle Railway Company*, No. 7178 (the "S. P. & S. Tax Case"), and *Chicago, Milwaukee, St. Paul & Pacific Railroad Company v. Adams County et al.*, No. 7122 (the "Milwaukee Tax Case"), both in the United States Circuit Court of Appeals for the Ninth Circuit, and also to exhibits and por-

* By "commercial value" as used in this opinion, is meant that value computed with sole reference to the property's future earnings.

tions of the typewritten transcript of testimony in the case of *Northern Pacific Railway Company v. Adams County et al.*, No. E-4300, in the District Court of the United States for the Eastern District of Washington, Northern Division (the "N. P. Tax Case"), and also to the printed record and exhibits in the case of *Northern Pacific Railway Company v. State of Washington*, No. 529, October term, 1935, in the Supreme Court of the United States (the "N. P. Business Tax Case"). Notice was also given to the N. P. on said August 9, 1937, where the originals or copies of the records and exhibits in each of said cases were lodged and might be examined.

On August 16, 1937, at 10:30 a. m., a further hearing was had before the Tax Commission pursuant to said resolution of July 27, 1937, the above-named counsel for the N. P. and for the Commission being present. Counsel for the N. P. thereupon submitted to the Commission certain written objections to the proceeding and the Commission's jurisdiction and objections to the testimony, data and exhibits theretofore served upon the N. P. and referred to by the Commission as hereinabove detailed, which objections were each and all overruled. The N. P., through its counsel, having thereupon stated that it had nothing further to offer, the said hearing was concluded.

The Commission, after considering all matters deemed material to this inquiry, has reassessed the property for the years involved in the amounts set forth in its resolution this day duly adopted and embodied in a separate order. The various schedules frequently referred to herein are set forth immediately following this Opinion.

In reassessing the N. P.'s operating property for said years, the following basic principles must be borne in mind:

(1) The Commission must value such property as of March first of each of such assessment years and in so doing must be guided solely by facts known or ascertainable at the time as of which the particular valuation is made. In other words, in making each such reassessment the Commission has no right to consider matters occurring subsequent to such assessment date.

(2) The 100% valuation fixed by the Commission for each of such years must be, under the statute, the Commission's best estimate of that value at which such property would be taken

in payment of a just debt from a solvent debtor. This has been judicially recognized as the equivalent of cash market value; i. e., that amount which a buyer able and willing but not compelled to buy, would pay for the property to a seller, able and willing, but not forced to sell.

(3) Unlike a farm or an automobile, a railroad of the size of that owned by the N. P. is rarely if ever the subject of such a sale. Consequently the duty is imposed upon the Commission to determine, as of the respective assessment dates, what sum would in fact have been agreed upon by such a willing buyer and willing seller had there in fact been such on the assessment date, and in so doing, must place itself in the position of both such hypothetical buyer and hypothetical seller, and determine from all data then available, the figure upon which the two would have agreed.

(4) Among the tests customarily applied to determine such market value are the following: (a) the capitalization, at a certain rate of yield, of what the average net railway operating income of the property was or should have been for a series of years last past; (b) the aggregate value of the Company's outstanding stock and funded debt averaged over a period of one or more years, less appropriate deductions for the Company's non-carrier and tax-exempt property; and (c) the property's cost of reproduction new less depreciation.

(5) Interstate railroad companies do not keep their accounts by states, and consequently the true net railway operating income of the property actually within a given state cannot be determined with such minute accuracy as if such state property were owned and operated by a separate company. Moreover, the owning company's outstanding securities constitute a lien upon the company's property located both within and without the state. Consequently, in applying the "net earnings" or "stock-and-bond" tests, the commercial system value indicated thereby must be apportioned to the state by some allocation factor fairly reflecting the relative proportions of such indicated system commercial value within and without the state.

Net earnings value. It must be borne in mind that the purchaser of railroad property is buying the future, not the past earnings. He is concerned with the past earnings only as they

tend to shed light upon the probable future earnings. The only tangible evidence we have as to the extent to which the hypothetical buyer or seller of the entire railroad property as of March 1, 1935 and 1936, would have been influenced by past earnings is the Company's stock and bond prices. Likewise, such market quotations afford the only tangible evidence of what return would have been expected by the commercial world on money invested in such an enterprise. Should the Commission undertake to determine for itself as of these valuation dates to what extent a hypothetical buyer or seller would have been influenced by past earnings, what return would have been expected, and how far into the past he would have delved for assistance, would mean that the Commission would, in the end, be compelled to look to stock and bond quotations as its chief, if not sole guide. This being true, then why not in the first instance use such market quotations as the test of commercial system value?

Like many other enterprises, railroads have their good and bad periods. In a general way their earnings seem to follow the business cycles of the nation. Therefore, to get a fair cross-section view of the earning power of a railroad as indicated by its past operations, it would appear that for valuation purposes the net earnings should be as nearly as possible averaged over a period covering a complete business cycle. From 1920 to 1935 the N. P.'s reported annual net railway operating income was as follows (see Schedule No. 1):

1920.....	\$7,949,458	1925.....	\$22,227,319	1930.....	\$14,535,935
1921.....	10,843,826	1926.....	24,666,531	1931.....	7,173,151
1922.....	19,450,514	1927.....	23,126,803	1932.....	1,990,389
1923.....	17,100,557	1928.....	25,454,369	1933.....	5,975,973
1924.....	19,861,078	1929.....	21,643,663	1934.....	7,915,209
				1935.....	7,726,342

It will thus be seen that 1920 was the beginning of the business cycle ending in 1934 and 1935, which would mean that were this period taken, we would be compelled to use 15 and 16 years respectively as the criterion, whereas we are familiar with no decided case wherein the courts have used as a test so long a period of past net earnings. Nor can we hardly conceive of any railroad favoring so long a test period of earnings. Yet we doubt if the use of shorter periods as the controlling test of system value would be fair to either the state or the taxpayer.

To take ten years for instance, would include the period from 1926 to 1929, an earnings era which the companies insist may not recur. On the other hand, to take only the last five years would be to use as the test those years as to which the United States supreme court had this to say:

"The long period through which, even in 1933, the depression had extended compelled the conclusion that it was not temporary. Judicial notice must be taken of the fact that late in 1929 there occurred a great collapse of values of all classes of property—railroads, other utilities, commodities and securities, and that the depression then commenced progressively became greater. In making assessments in that period, the board was bound to take into account and give due weight to the sudden, progressive and enormous declines of value." *Great Northern Ry. v. Weeks*, 297 U. S. 135, 149.

But anyone familiar with business conditions on either March 1, 1935, or March 1, 1936, must have realized that the nation as a whole was finally on its way out of this disastrous depression. This is evidenced not only by the stock and bond quotations from 1932 on, but by the N. P.'s reported net railway operating income which increased from \$1,990,389 in 1932 to \$7,915,209 in 1934. It would therefore seem as unjust to the state to measure the N. P.'s future prospects by its earnings from 1931 to 1934 as it would be unfair to the railroad to include its earnings from 1922 to 1929. We believe a fairer and more equitable valuation will result if we leave the weight to be given to the N. P.'s past earnings to the stock and bond purchasers who, during this period, supported their judgment with their good money, and by reason of the unusual conditions then existing, to measure the N. P.'s commercial system value by stock and bond values alone.

Another objection to basing the value of the N. P.'s operating property upon any computation based on its reported past net railway operating income, is the fact that the reported figures do not accurately reflect the true net earnings of the Company from its railway operations.

It was conceded by E. V. Peterson, the Company's statistician, both at the trial of the N. P. Business Tax Case, and at the N. P.'s hearing before the Commission on that company's 1937 assessment that there was much deferred maintenance of

both roadway and equipment in 1932 and 1933 which had to be made up in later years. It follows that the fact that the N. P. reported certain figures as its net for 1932 and 1933 does not mean that these figures were correct. Its true net earnings for these years were in fact materially less than those reported. On the other hand, in the later years of 1934 and 1935 (the more significant from a valuation standpoint) when the Company was making good this deferred maintenance, its reported earnings must have been materially less than its true earnings. This being true, it would appear useless to attempt to bottom a calculation as to commercial system value on such reported figures.

Test period for stock and bond value. There are a number of decisions approving the use of an average of stock and bond quotations for a series of years. The purpose of taking more than one year seems to be to minimize the effect of any seemingly abnormal fluctuation in stock and bond prices rather than to reach a more equitable valuation. It is evident, however, that this practice may defeat the provision of the statute that the valuations are made annually and as of a definite time. It seems plain that where there is a continuous trend up or down in the market value of the stocks and bonds the use of long test periods would yield a fundamentally incorrect result. Let us, for instance, assume that each year for five years the market prices of such securities had decreased say, five per cent of their face value. The value in the fifth year would be 80% of the value in the first year. But the average for the five years would be 90% of the value in the first year or 10 points more than the value reflected by current prices. If an assessing officer found that a certain piece of taxable property had been the subject of a half dozen voluntary sales each year for five years preceding the assessment date, and the sales price in the last year's sales averaged 20% less than those in the most remote year, surely it could not be urged that the assessor should not use as the test of value the sales made during the last year, rather than the higher prices evidenced by sales in the earlier years.

Indeed, the legislature seems to have contemplated the use of one year as the test period, leaving it to the assessing board to use a longer period if believed advisable. Paragraphs 9 and 12,

section 39, chapter 130, Laws of 1925, Extraordinary Session, require reporting railroad companies to show the average market value of the shares of stock and each series of funded debt for the periods the Commission may request or specify, but "at least for one year ending the thirty-first day of December preceding."

Section 9, chapter 123, Laws of 1935, provides that in determining the system value of interstate railroad properties the Commission may determine for such purpose "the par value, actual value and market value of the company's outstanding stocks and bonds during *one* or more preceding years," etc.

In the 1925-27 railroad tax suits learned counsel for the Milwaukee railroad insisted throughout that a test period for stock and bond values longer than one year was improper. After hearings extending over a period of nearly a year and a half the Special Master who heard the testimony concluded:

"The problem here is find out the value of these roads as of March 1st in 1925, 1926 or 1927, as the case may be, and to do this properly I think we should confine our investigations to a period, not in the remote past, but to one sufficiently near the valuation date as to give us the consensus of opinion as to stock and bond values within a reasonable and moderate time back of the respective valuation dates. I do not see how values obtained say, in 1920, would reflect the value of railroad property say in 1925, but I believe that if a period, say of one year prior to the valuation date, be taken, and an average for that period obtained, we will more nearly approach value at the time we have under consideration than by the use of periods more remote."
(p. 38.)

* * * * *

"In all other kinds of property, the assessor usually considers sales transactions that have taken place within the year immediately preceding the date of the assessment, and I believe that in this method of valuing railroads, we should make no exception." (p. 43.)

True, in his decision on exceptions to the Master's report, Judge Webster chose three years as the proper test period, but the learned judge likewise reached the conclusion that in making the choice, periods of disturbed and confused conditions should be avoided. To quote:

"In using both the stock and bond method and the capitalization of net operating income method, I have chosen a three-

year period. The reason for this choice is that I feel it is advisable not to include the years which reflected the disturbed conditions following as an aftermath of the World War, and the confusions and dislocations immediately following the termination of federal control of railroads." (*N. P. Ry Co. v. Adams Co.*, 1 Fed. Supp. 163, 192.)

In *G. N. Ry. v. Weeks*, 297 U. S. 135, 149, the court cited evidence in support of the following facts:

"The purchasing power of money greatly increased and correspondingly values decreased from 1929 to 1933. The Dow-Jones & Company average of 30 industrial stocks fell from 383.17 in September, 1929, to 41.22 in July, 1932. The average of 20 railroad stocks fell between the same dates from 189.11 to 13.23; total market value of all common and preferred stocks listed on the New York Stock Exchange fell from eighty-nine and one-half billion to fifteen and one-half billion dollars."

Surely, in applying the stock and bond method, assessing boards should, if possible, avoid using market quotations during a period of hysteria and extreme uncertainty in business such as 1932 and 1933, particularly where, as here, there was unusual activity in the stock during the year immediately preceding each valuation date. Thus, out of a total of 2,480,000 outstanding, the number of shares sold in 1934 was 961,300 and in 1935, 1,649,800, as compared with 678,020 in 1931 and 532,350 in 1930. (See schedule No. 2.) It would seem that under the circumstances the average of the most recent year's sales amounting to nearly 40% (in 1934) and 66% (in 1935) of the total equity, is a far better measure of the present commercial worth of the Company's assets than would be an average including sales made during a more remote period. In 1935 the Commission would not have been in a position correctly to value the N. P.'s property without having before it the results of its 1934 operations and 1934 business conditions. For the same reason, whatever indications of value are reflected by 1932 and 1933 stock and bond sales would assist the Commission but little or none at all in valuing the N. P.'s assets as of March, 1935.

It is to be noted that at its hearing before the Commission on the 1937 assessment, the N. P., through its witness, E. V. Peterson, conceded that the quotations during 1932 would not be persuasive as to the value of its assets in 1937.

We, therefore, find that as to each such assessment the com-

mercial value of the N. P.'s corporate assets should be fixed at the average value of its outstanding stock and securities for the year ending the day last preceding the particular assessment date. We find that the stock and bond value as indicated by average market quotations of both stock and bonds for the year ending with the last day of February next preceding the assessment date, was \$339,315,872 for the 1935 assessment, and \$344,874,344 for the 1936 assessment (see schedule No. 3) and that the stock and bond value as indicated by the market value of the stock reflected by average market quotations for the same period, plus the par value of the funded debt at the end of the last calendar year was \$365,775,000 for the 1935 assessment, and \$358,975,166 for the 1936 assessment. (See schedules Nos. 3 and 5.)

Deductions for non-operating property. Having determined the value of the Company's outstanding stock and bonds, we have found the stock and bond buyers' and sellers' conception of the commercial value of the Company's entire assets. These include, of course, both operating and non-operating and tax exempt properties. In order to secure the stock and bond value of the operating property alone, therefore, we must make certain deductions by reason of the Company's ownership of these non-carrier and non-taxable properties.

Obviously, the amount deductible as to any particular item of this non-carrier property is not necessarily its true cash value, for after all, stock and bond quotations are merely evidence of commercial value, and do not themselves represent value. In making such deductions we conceive the problem as to each item or class of non-carrier property to be this: *how much more did the purchasers of stock and bonds pay therefor by reason of the Company's ownership of the particular item?* For instance, how much more did purchasers pay for the N. P. stock and bonds by reason of the Company's ownership of its Burlington stock, its Land Grant lands, etc.? In attempting to answer this question, we must, in each case determine as nearly as possible the view point of the ordinary investor in such securities in making such purchases.

The N. P.'s counsel argue that the deductions made by the Commission must be measured by the actual cash value of all

the non-operating property owned by the Company, basing their contention on section 10, chapter 123, Laws of 1935, which provides:

“For the purpose of determining the system value of the operating property of any such company, the commission shall deduct from the actual cash value of the total assets of such company, the actual cash value of all non-operating property owned by such company.”

It will be noted that this provision did not apply to the 1935 assessment (section 7, chapter 123, Laws 1935), and consequently cannot be held to apply to the reassessment of the N. P.'s property for that year.

But even as to the 1936 assessment, we do not believe the legislature intended to hamper the Commission by artificial rules which might result in an incorrect tax valuation of the Company's property. But if it in fact did so, then such statutory method is void and must be disregarded as necessarily leading to erroneous results. The first and primary duty of the Commission is studiously to observe the mandates of the state constitution which requires that “if the basis of valuation is the true market value of the property, then that basis must be applied to all alike.” *Pacific Tel. & Tel. Co. v. Wooster*, 178 Wash. 180, 184.

Rem. Rev. Stat., section 11135, prescribes the method of assessment of taxable property generally and provides:

“All property shall be assessed fifty per cent of its true and fair value in money. * * * The true cash value of property shall be that value at which the property would be taken in payment of a just debt from a solvent debtor.”

And this means the amount for which it “would sell at a fair, voluntary sale for cash.” *Eureka District Gold Mining Co. v. Ferry County*, 28 Wash. 250, 259.

“When reduced to its simplest terms,” this means “market value.” *Spokane etc. R. Co. v. Spokane Co.*, 75 Wash. 72, 87; *Nat. Lbr. & Mfg. Co. v. Chehalis County*, 86 Wash. 483, 486.

The state constitution (14th amendment) requires that “all taxes shall be uniform upon the same class of property within the territorial limits of the authority levying the tax.”

Following this constitutional mandate of uniformity of assessment, section 7, chapter 123, Laws of 1935 requires the

Commission annually to enter on its assessment rolls "the true cash value of all the operating property of each of such companies as of the first day of March of the year in which the assessment is made."

Since the legislature has expressly required that both public utility operating property and all other taxable property be assessed on the basis of its true cash value, it seems clear that any statutory rule for the guidance of assessing officers which necessarily results in an incorrect determination of such taxable value, would be clearly violative of the constitutional requirement as to uniformity of taxation.

If a method of assessment be followed by an assessing board which results in an assessment not representing true market value, the assessment is void. *Johnson v. Wells Fargo & Co.*, 239 U. S. 234. It is plain, of course, that such erroneous method would be no less objectionable because sanctioned or required by statute.

The market quotations of stock and bonds do not necessarily represent the cash market value of the assets of the corporation. Such quotations may indicate a figure either materially higher or materially lower than the cumulative value of the separate assets. Hence, if the sole criterion for making deductions for non-operating or tax-exempt property is its cash market value, then the same yard-stick is not used for making such deductions as in testing the value of the system, and a fundamentally erroneous result is bound to follow. The legislature, we are convinced, intended no such unconstitutional result. What it meant, we believe, was that if reproduction cost be used as the test of system value, then reproduction cost is the test for deductions. If the corporate assets be valued according to past earnings, then past earnings is the test in making deductions; and if the stock and bond value of the corporate assets be used, then the amount paid by the stock and bond purchasers for the non-carrier property is to be used as the test in making such deductions.

Following this method of determining the proper deductions as to the 1935 assessment, we would reach a correct valuation figure, by a process countenanced by statute. If so, then by correctly following the same method for the 1936 assessment we

would likewise necessarily arrive at the true cash value of the Company's Washington properties. It is, we believe, unexplainable how the fact that this method of valuation is permitted by statute as to the one assessment but not as to the other can in any way affect the rights of the taxpayer who, after all, is interested only in securing a fair and just valuation.

We have, therefore, concluded that the same test, the one above explained, is proper for both assessment years.

Same—stocks in other companies. An important part of the N. P.'s non-carrier property consists of stock of the Chicago, Burlington & Quincy Railroad Company (the "Burlington"), the Spokane, Portland & Seattle Railway Company (the "S. P. & S.") and the Northwestern Improvement Company (the "N. W. I. Co."). Hence, one purchasing part of the N. P.'s stock or bonds is, as part of the transaction, purchasing an interest in the stock of these three companies. But it must be remembered that one buying or selling an interest in a holding company, is not influenced by the same considerations as when making a direct sale or purchase of the stock so held. For instance, in case of a direct purchase of Burlington or S. P. & S. stock, the vendee would be free to sell the same at his pleasure, and in such amounts as he saw fit. Unquestionably this privilege of resale often has a profound influence on both the volume of sales and the purchase price paid. The vendee buys today, anticipating a quick turnover with a profit on the resale. Not so, however, as to the purchase of an interest in a holding company, particularly where, as in case of the Burlington and S. P. & S., the stock is not even within the sole control of the N. P. itself. As to such stock holdings, the purchaser of N. P. securities must be influenced principally, if not entirely, by the extent to which the N. P.'s earnings will be augmented by the stock so held.

Burlington stock. On each of the assessment dates the N. P. owned 48.59% of the common stock of the Burlington. It was purchased in 1901 by the proceeds of bond issues which have since been refunded by the issuance of what is known as the Company's "B" and "C" bonds. The Burlington stock is hypothecated as security for these bonds, but the same are also secured by mortgages on all the Company's assets.

It is argued that in using the stock and bond method, the market value of these bonds should be off-set against the Bur-

lington stock. To do this would plainly be tantamount to appraising the Burlington stock for deduction purposes under the conditions existing in 1901, for the purpose of assessments made over thirty years later. Quite obviously, this would not be permissible.

It is next argued that even were such a method improper, it was the practice followed by the Washington assessing officers in past years when the Burlington stock equaled or exceeded the market value of the "B" and "C" bonds and hence that it would be inequitable for the Commission now to discontinue the practice. We know of no rule requiring the perpetuation of an erroneous method of assessment pursued in past years. The N. P. would be the first to complain were such practice prejudicial to its interests. We cannot treat the state with less consideration than the taxpayer. Moreover, counsel's premise is not correct. For the years 1925 to 1932, inclusive, the amount of the N. P.'s assessments were fixed by the court—not by the state authorities—and there is no showing or claim that in 1933 and 1934 the value of the Burlington stock exceeded the market value of the "B" and "C" bonds.

Deduction for Burlington stock. One purchasing part of the N. P.'s stock or bonds prior to the assessment dates was, as part of the transaction, purchasing an interest in the Burlington common stock owned by the N. P. Undoubtedly the N. P.'s ownership of the Burlington stock jointly with the Great Northern has two principal elements of value to the N. P.: (1) the value inhering in its ability to make advantageous traffic and operating agreements with that company; and (2) its income-producing value. The intangible element of value first mentioned is unquestionably part of the N. P.'s operating property and is therefore not a deductible item. In determining the Burlington stock deduction, we are concerned, therefore, with only the second element, namely, the income-producing value. The problem, then, is: how much more did stock and bond purchasers pay for the N. P. securities by reason of the income-producing element of the Burlington stock owned by the N. P.?

It seems plain that the amounts which the stockholders, the G. N. and N. P., in past years chose to appropriate from the Burlington coffers as so-called "dividends" is not material. What would chiefly interest a potential buyer of Burlington

stock so far as past operations were concerned would be: how much of the Burlington's corporate net income belongs to the stockholders; i. e., what has been its net corporate income after the payment of fixed charges?

Test period of Burlington earnings. Would the hypothetical purchaser of Burlington stock in 1934 and 1935 use as his guide a one-year, three-year, five-year, or a longer period of past earnings? We do not believe he would be content with a single year or an average of three years. The first major break in the market occurred, as all know, in the Fall of 1929. It is urged by many and conceded by the N. P.'s witness, E. V. Peterson, at the hearing on the 1937 assessment, that the relatively high earnings of the railroads in 1929 and earlier years may not recur in their full measure, and that it is therefore improper to use as a measure of railroad values the results of their operations in 1929 and prior years. We are, therefore, of the opinion that for the assessment years of both 1935 and 1936 the average annual earnings from 1930 on should properly be chosen as the test.

Capitalization rate. In considering these past operations as a guide to future earnings, what rate would the Burlington stock purchaser use for capitalization? In answering this question, we must remember that the stockholders' interest in the Company's earnings is junior to that of the security holders. The stockholder is entitled to share only in whatever earnings be left after payment of all fixed charges, and the setting aside of the amount which the directors chose to plow back in the property. It is therefore apparent that such stockholder's investment is far more hazardous than that of investors in other railroad securities. For this reason, it is well recognized that purchasers of common stock in a heavily mortgaged enterprise such as the Burlington are not content with the modest returns realized by bondholders. Thus, while six per cent of its entire net earnings would probably be a proper capitalization rate for measuring the commercial value of a railroad, so low a rate would clearly not be sufficient for determining the value of the stockholders' equity.

To determine the rate to be used, we should, we believe, look to the rate of return expected by purchasers of stock in other railroad companies whose stocks are active on the exchanges.

Looking to the parent road, the N. P., we find that the average market quotations indicated a market value of its outstanding stock of \$85,405,000 in 1934, and \$78,671,111 in 1935. We further find that the N. P.'s average annual net corporate income after payment of fixed charges for the years 1930 to 1934 inclusive was \$5,068,606, and for the years 1930 to 1935 inclusive was \$4,295,802, or 8.44% and 9.55% respectively of the market value of its outstanding stock for the years 1934 and 1935. (See schedule No. 6.) Using another large road as a test, we find that for the same periods the Union Pacific's average annual net corporate income after payment of fixed charges and interest on preferred stock was 9.60% and 10.34% respectively of the average market value of its outstanding common stock for the last year of such periods. (See schedule No. 7.)

We are therefore of the opinion that in determining the price which stock and bond purchasers paid for the N. P.'s Burlington stock in the years 1934 and 1935 the Burlington's average annual past corporate net earnings available to stockholders should not be capitalized at a rate of less than 8%.

The Burlington's average annual corporate net earnings after payment of fixed charges were \$9,371,039 and \$8,116,340 for the periods 1930 to 1934 and 1930 to 1935, respectively. By capitalizing these respective amounts at 8%, we find the value of the N. P.'s 48.59% interest in the Burlington's outstanding stock to be \$56,917,348 as of March 1, 1935, and \$49,296,620 as of March 1, 1936. (See schedule No. 8.)

Were the Burlington *system* figure used the indicated deduction would be materially less. (See schedule No. 9.)

S. P. & S. stock and bonds. The N. P. and G. N. each owns a one-half interest in both the stock and bonds of the S. P. & S. which, in turn, owns all, or substantially all of the stock of the Oregon Trunk, Oregon Electric and United Railways. What we have said of the Burlington stock seems to apply with equal force here, save that since the N. P.'s interest in the S. P. & S. is not subject to mortgage indebtedness, we find that a 6% capitalization rate should be used. Moreover, because the S. P. & S. virtually owns its subsidiaries which are operated substantially as branch lines, we have used for capitalization purposes the corporate net income of the S. P. & S. *system* rather than the S. P. & S. alone. Since the N. P.'s interest is represented by

both stock and bonds, we have capitalized the corporate net income available for both interest on funded debt and dividends on stock. In choosing a test period, we have not gone behind the year 1933 for the reason that the Company's earnings in 1930 to 1932 reflect conditions seemingly abnormal even for that unusual period, probably due to loss of lumber traffic. Capitalizing at 6% the average annual corporate net income available for interest and dividends for the 1933-34 and 1933-35 periods for the 1935 and 1936 assessments respectively, we find the proper deduction to be \$9,123,342 for the 1935 assessment and \$10,451,308 for the 1936 assessment. Had 1930-34 and 1930-35 been used as the test periods, the indicated deductions would have been substantially less. (See schedule No. 10.)

The N. P. urges that the 100% valuation for taxation purposes should be used for purposes of deduction. One objection is that the Commission cannot lawfully delegate to the Oregon authorities the function of valuing property located in Washington. But another and conclusive objection is that in determining the deductible amount, the problem is, as already stated, not necessarily to find the cash market value of the Company's assets, but instead to determine the added amount which the N. P. stock and bond purchasers paid therefor by reason of the N. P.'s ownership of a one-half interest in the stock and bonds of the S. P. & S. from an investment standpoint alone. For example, the assessing board of Washington in valuing the S. P. & S. operating assets for taxation purposes considered not only the road's past net earnings and future prospects, but also gave considerable weight to the reproduction cost of such properties, and we must assume that the Oregon taxing authorities did the same in assessing the operating properties of the S. P. & S in Oregon and that of the subsidiary companies. For this reason it seems to the Commission highly improper to use for deduction purposes, the value of the physical assets fixed for taxation purposes.

We may add that at the hearing accorded the N. P. the Company's statistician, E. V. Peterson, confessed his inability to suggest a method of determining the market value of either the Burlington stock or the S. P. & S. stock and bonds.

Northwestern Improvement Company stock. The N. P. owns all of the stock of this company, which has no outstanding bonds.

In 1924 the N. W. I. Co. increased its capital stock to \$24,800,000, a figure which must be deemed the Company's own estimate of the value of its assets as of that time. Between 1925 and 1934 inclusive, and between 1925 and 1935 inclusive, the N. W. I. Co. reduced its assets in the sums of \$14,261,364 and \$17,455,344 respectively, for during those periods it paid out in regular and special dividends those amounts in excess of its aggregate corporate net income. (See schedule No. 11.) These figures are borne out by the reduction of the book value of securities held by it in other companies from \$21,767,004 in 1930 to \$7,327,348 in 1934, and to \$4,470,843 in 1935. (See schedule No. 12.) Thus, since 1929, the parent company has well-nigh milked this subsidiary dry of its liquid assets. If we subtract from the Company's 1924 capitalization of \$24,800,000 the respective net amounts by which its assets were reduced subsequent thereto and prior to the assessment years, the indicated value is \$10,538,636 for the 1935 assessment and \$7,344,656 for the 1936 assessment. There is nothing before us to indicate that the Company's assets have appreciated in value subsequent to 1924. Indeed, the opposite may be fairly assumed since much of its property is unimproved lands and one of its important activities is the production of coal, in 1935 and 1936 an activity without a promising future by reason of coal being so generally supplanted by other forms of fuel. From the facts above recited and many others not here detailed including its past earnings we find that a liberal—perhaps too liberal—deduction for the N. W. I. Co. stock is \$12,000,000 for the 1935 assessment and \$10,500,000 for the 1936 assessment.

The objections to the use of the assessed valuation of this company's properties as the basis of deduction, has been pointed out above in connection with our discussion of the S. P. & S.

Land Grant Lands. On each of the assessment dates the N. P. owned something over 6,000,000 acres of unimproved lands received from the United States government as part of its land grant. These lands are scattered throughout the various states in which the Company operates. The N. P.'s counsel urges that the proper figure for deduction purposes is the aggregate assessed valuations (raised to full value) placed upon these lands by local assessing officers. One objection to this plan, as we have said before, is that the Commission cannot delegate its

duties to the assessing officers of other states. Another and controlling objection is that the value found by the assessing officers quite obviously does not represent the value of these lands either to the N. P. or its security holders. The assessed valuation is based upon the land's most profitable potential use. If most valuable for agriculture, the value of the land is determined by its potential uses for that purpose. The same is true as to mineral lands, timber lands, grazing lands, etc. But the N. P. profits by none of these potential uses save as they affect the purchase price it ultimately receives therefor. Hence, the added amount paid in the aggregate for the N. P.'s stock and bonds by reason of the Company's ownership of these lands must be measured solely with reference to the present value of the anticipated sales price less cost of sale, taxes and other expenses. Thus, if none of the lands were sold for fifty years, and the taxes averaged 2% of the amount for which assessed, their present value to the N. P. would be nil, however high or low their present assessed valuation.

The position of the N. P. with regard to these lands is not unlike that of a merchant with a large stock of miscellaneous items of merchandise, some perhaps readily salable, but others for which there is little if any demand, but on all of which, until sold, such merchant is required to pay the taxes. It is plain, of course, that the aggregate assessed valuation of the various items of merchandise at any given time would not represent the value thereof either to such merchant or to its stock or bond holders, if a corporation.

It appears that the expenses of the N. P. land department plus the taxes paid on the land grant lands exceeded the proceeds of net sales and interest collected by \$2,441,959 for the five years ending 1934 and by \$2,780,805 for the five years ending 1935. (See schedule No. 13.) With such a history, it is apparent that in 1935 and 1936 the most adroit salesman could hardly have interested the investing public in the stock of a land company whose sole assets were these non-productive lands. And since a stock or bond purchaser is influenced chiefly, if not entirely, by the future earnings of the enterprise, how can it be seriously contended that he would pay an added sum for his N. P. stock or bonds for the purpose of extending to the Company the privilege of continuing to lose money?

Would not the forced retention of these lands by the Company (as security under its outstanding mortgages) have a tendency to depress rather than to enhance the market quotations of its securities? Would not any slight augmentation of the purchase price of its bonds be more than off-set by a reduction in its stock prices resulting from the depletion by the carrying charges of its corporate net available for dividends?

If we accept as correct the Company's own estimates of its anticipated net proceeds from these Land Grant lands made to the I. C. C. as of 1917 and assume that its present holdings will be disposed of in the course of 25 years, their value to the Company and consequently to its stock and bond holders would be \$6,233,395 as of March, 1935, and \$6,239,735 as of March, 1936. (See schedules Nos. 14, 15 and 15a.)

It was conceded by the N. P.'s witness, E. A. McCrary, at the hearing on the 1937 assessment that between 1917 and the 1935 and 1936 assessment dates these Land Grant lands decreased in value by at least a third, a fact of which we take notice aside from Mr. McCrary's statement. However, by reason of the contention made that these lands contain extensive undeveloped oil and mineral deposits, and other matters we have considered not here set forth, we find that the proper deduction therefor should be \$6,500,000 for each assessment year.

Roads leased. A three-year average of the annual rentals received from lease of road under I. C. C. account No. 509, capitalized at 6% indicates a deductible item for the 1935 assessment of \$5,879,483 and for the 1936 assessment of \$5,839,400. These we find to be the proper deductible amounts. (See schedule No. 16.)

Miscellaneous physical properties. The annual gross receipts from rentals under accounts 510, 511 and 519 without deducting taxes or expenses for the three-year period ending in 1934 were \$703,085 and for the period ending in 1935 were \$674,107. Some of the rented properties are improved, other rentals are from ground leases. The rental agreements are mostly for short terms and are subject to revocation at the pleasure of the lessor. In some, but not in all cases the tenant pays the taxes in addition to the rental reserved. Under all the circumstances we believe

that a capitalization rate of less than 8% for the purpose of ascertaining the deduction to be made for this type of property would not be justified. Capitalization at 8% yields a figure of \$8,788,562 for the 1935 assessment, and \$8,426,337 for the 1936 assessment, which we find to be the proper deductible amounts. (See schedule No. 17.)

Miscellaneous stocks, securities and accounts. The dividends and interest from this type of credits are reported under accounts 513 and 514. After deducting dividends received from the Burlington and N. W. I. Co. stock and interest on S. P. & S. bonds (these properties having been separately valued) the three-year average of the annual receipts from these accounts is shown to be \$135,739 for the period ending with 1934, and \$80,858 for the period ending with 1935. Capitalizing these amounts at 6%, we find the proper deduction to be: \$2,262,317 for the 1935 assessment and \$1,347,633 for the 1936 assessment. (See schedule No. 18.)

Cash on hand. The N. P.'s sets up cash on hand as a deductible item on the theory that cash is not taxable in Washington and therefore should not be included in the stock and bond value to be apportioned to the State. We are at this time inclined to agree with this contention, provided, however, that the same does not exceed the Company's net current assets less materials and supplies on hand. We believe, however, that the average for the test period should be taken rather than the amount reported as of the close of the last calendar year. The average of the amounts on hand at the beginning and end of the years 1934 and 1935 respectively are \$6,560,115 and \$8,307,996. (See schedule No. 19.) These are the respective amounts which have been deducted for the 1935 and 1936 assessments.

Northern Pacific Terminal Co. stock. This stock should be treated merely as a muniment of the N. P.'s title to an undivided interest in one of its important terminal properties and is just as truly essential to its railway operations as any of its other terminal properties. The stock is therefore not a deductible item.

SUMMARY OF DEDUCTIONS FOR NON-CARRIER AND TAX-EXEMPT PROPERTY

Item	Deductions For 1935	Deductions For 1936
	Assessment	Assessment
Northwestern Improvement Co. stock.....	\$12,000,000	\$10,500,000
S. P. & S. stock and bonds.....	9,123,342	10,451,308
C. B. & Q. stock.....	56,917,348	49,296,620
Land Grant lands.....	6,500,000	6,500,000
Roads leased	5,879,483	5,839,400
Miscellaneous physical properties.....	8,788,562	8,426,337
Cash on hand.....	6,560,115	8,307,996
Miscellaneous stocks, securities and accounts.....	2,262,317	1,347,633
Total deductions.....	\$108,031,167	\$100,669,294

APPORTIONMENT OF SYSTEM VALUE TO WASHINGTON

As heretofore pointed out, in applying the system value test to the operating property within the state, the appraising officer must, after finding the system value, apportion to the taxing state an equitable proportion of such value.

The importance of devoting careful thought to the subject of allocation was thus recognized by Judge Webster in *N. P. Ry. Co. v. Adams County*, 1 Fed. Supl. 163, 192:

"In arriving at permissible factors for allocating system value, haphazard and reckless averages cannot be struck, for a very small percentage of difference in allocation produces large results when it is applied to a system value running into the hundreds of millions."

Thus, as to a railroad with a system value of \$300,000,000, an error of one point in apportionment would mean a difference to Washington of \$3,000,000 in actual value or as much as \$1,500,000 in equalized value.

The extreme difficulty of apportioning between states the system value of an interstate railroad has frequently been recognized by the courts. *Cleveland etc. Ry. Co. v. Backus*, 154 U. S. 439, 445-446; *Gorham Mfg. Co. v. Travis*, 274 Fed. 975, 978-9; *Underwood Typewriter Co. v. Chamberlain*, 254 U. S. 113, 120-121.

Before discussing the allocation factors proposed by the taxpayer, it is perhaps proper briefly to discuss a factor which the courts have had frequent occasion to consider, namely, the relative mileage-of-line factor. It is to be noted that although this factor has been approved as to roads homogeneous in character, it has been as emphatically condemned as unfair to states

having terminal properties of relatively great value, and costly mountain construction. *Wallace v. Hines*, 253 U. S. 66. Said the court in the case last cited (p. 69):

“As the law is administered, the tax commissioner fixes the value of the total property of each railroad by the total value of its stocks and bonds, and assesses the proportion of this value that the main track mileage in North Dakota bears to the main track of the whole line. But on the allegations of the bill, which is all that we have before us, the circumstances are such as to make that mode of assessment indefensible. North Dakota is a state of plains, very different from the other states, and the cost of the roads there was much less than it was in mountainous regions that the roads had to traverse. The state is mainly agricultural. Its markets are outside its boundaries and most of the distributing centers from which it purchases also are outside. It naturally follows that the great and very valuable terminals of the roads are in other states. So looking only to the physical track the injustice of assuming the value to be evenly distributed according to main track mileage is plain.”

It is rather significant that the then general counsel for the N. P. appeared as counsel for the complaining railroads in that case.

Relative net earnings the logical basis of apportioning commercial system value.

Since one of the tests of the commercial value of a railroad is its prospective earning power, it must follow that the best index of the relative value of a given portion of a railroad is its relative earning power, present and prospective.

But since the best available index of the relative future earnings of a part of a railroad is its relative past earnings, it must hence follow that *relative past net earnings averaged over a reasonable test period, is the best indication of the relative value of that portion of an interstate railroad located in a given state.*

This principle is, we believe, self-evident. A railroad system is made up of many lines which might conceivably be owned and operated by separate companies. Were they operated independently, surely it could not be doubted but that their relative net earnings would best evidence their relative value. Were the N. P.'s lines in Washington on the one hand, and its lines outside of Washington, on the other, owned and operated

by separate companies, who then would deny that their relative net earnings did not best reflect the relative value of their respective operating properties?

After taking testimony for nearly a year and a half Judge Kauffman, the Special Master, said in the N. P. tax case:

"It is without doubt true, as has been before said, that the contribution of that part of the system within the state is best measured by the net revenues resulting from state operations;" (Master's Report, p. 70).

Professor Balthaser H. Meyer, for many years a member of the faculty of the University of Wisconsin and a member of the Wisconsin Railroad Commission, and now senior member of the Interstate Commerce Commission, has this to say in Census Bulletin 21 on the "Methods for the distribution of railway values among states":

"Theoretically and logically the net-earnings basis is the most defensible basis for the distribution of total values because it is, according to the arguments presented in a preceding chapter, the only test of these commercial values themselves. It cannot be too often repeated that a railway is worth what it can earn. It follows that the value of that part of a railway system which lies in a particular state is worth what it can earn in that state, or such a part of the total value of the system as the net earnings in the state are a part of the total net earnings. This is an impregnable position."

If, therefore, relative net earnings is the true guide to the relative value of different portions of a railroad, it must follow that the value of any one or more allocation factors offered as a substitute, must necessarily be tested by the extent by which such proposed factors tend to reflect relative net earnings.

Allocation factors proposed by taxpayer:

The apportionment factors and percentages of indicated relative value which the N. P. urges us to use, are the following:

(1) *Relative operating revenues*, computed by comparing the operating revenues earned within the state with those of the system, revenues from interstate traffic, freight and passenger, being apportioned on a mileage prorata. This factor, taking a three-year average, indicates a relative value in Washington of 26.21% for the 1935 assessment, and 25.55% for the 1936 assessment.

(2) *Relative car and locomotive mileage*, computed by comparing the total freight and passenger car and locomotive mileage operated in Washington with that of the system. A three-year average indicates a relative value in Washington of 22.05% for the 1935 assessment, and 21.52% for the 1936 assessment.

(3) *Relative traffic units*, computed by comparing the sum of the revenue net ton miles and revenue passenger miles carried in Washington with the same for the system. A three-year average indicates a relative value in Washington of 24.00% for the 1935 assessment, and 23.52% for the 1936 assessment.

(4) *Relative track mileage owned and operated*, representing the comparative number of miles of all tracks owned and operated within the state and for the system at the end of the last calendar year preceding the assessment, indicates a relative value in Washington of 29.77% for the 1935 assessment, and 29.74% for the 1936 assessment.

(5) *Relative physical property*, representing the relative cost of reproduction new less depreciation as of June 30, 1917, using 1914 prices plus depreciated net additions and betterments to the end of the last calendar year preceding the assessment, of the N. P.'s operating property in Washington and that of the system, using the figures of the Interstate Commerce Commission ("I. C. C.") and certain modifications as to land values by the company's accountants. This factor yields Washington 33.24% for the 1935 assessment, and 33.13% for the 1936 assessment.

We are told by the N. P. that the sum of these respective percentages divided by five is the composite factor we should use.

The remarkable spread of these proposed factors is impressive. As to the 1935 assessment the factors range from 22.05% to 33.24%, a difference of 50.75%, and as to the 1936 assessment the range is from 21.52% to 33.13%, or a difference of 53.95%. It seems that if the proposed factor yielding the highest of these percentages is persuasive of relative value, the one yielding the lowest percentage must have little to recommend it, and *vice versa*.

Relative car and locomotive miles, traffic units, and gross revenues considered collectively:

As a group, these three proposed factors may properly be referred to as "line haul factors," since they each involve only line haul, the first, line haul of locomotives and loaded and empty cars; the second, line haul of tonnage and passengers; and the third, gross revenues which, as to interstate movements, are apportioned to the state according to relative mileage of haul.

Before considering these proposed factors individually, it seems proper here to point out certain objections common to all.

Distribution of terminal values:

It is to be noted, first, that these line haul factors are each based entirely upon station-to-station movements, and hence take no account whatever of movements of either equipment (other than locomotives) or traffic in the terminals. This means, of course, that neither of these three proposed factors reflect in any way the location of the N. P.'s extensive terminals in Washington.

As noted above, the United States Supreme Court has emphatically condemned allocation factors giving no proper consideration to the distribution of terminal values or relative cost of construction. *Wallace v. Hines*, 253 U. S. 66.

The N. P.'s principal terminals are located in St. Paul, Minneapolis and Duluth, Minnesota; Superior, Wisconsin, and Seattle, Spokane and Tacoma, Washington, and Portland, Oregon. There are no terminal facilities of any consequence in North Dakota, Montana or Idaho commensurate with those in Minnesota and Washington. (See Rec. N. P. tax case, pp. 686, 5779; Rec. N. P. business tax case, p. 128.)

The reproduction cost less depreciation at prewar prices as of June 30, 1917, of the N. P. operating properties in Seattle and Tacoma exceeded \$31,000,000. (Rec. N. P. tax case, pp. 3691, 3675, 3719.) We must also take notice of the extensive and valuable terminal properties in Spokane.

As of June 30, 1917, the average cost of reproduction less depreciation per mile of the 1,820 miles of line in Washington was \$69,201, as compared with an average of \$47,776 per mile

for the 4,457 miles of line outside of Washington. (See schedule No. 20.)

In this connection we note the great preponderance of branch-line mileage in Washington as indicated by the following table (see schedule No. 21):

December 31, 1934:

	<i>System</i>	<i>In Washington</i>	<i>Outside Washington</i>
Main line mileage.....	2,809.36	670.36	2,139.00
Branch line mileage.....	3,674.35	1,148.34	2,526.01
Total mileage	6,483.71	1,818.70	4,665.01
Per cent of branch line mileage.....	56.67%	63.14%	54.15%

December 31, 1935:

Main line mileage.....	2,810.50	664.47	2,146.03
Branch line mileage.....	3,655.43	1,148.29	2,507.14
Total mileage	6,465.93	1,812.76	4,653.17
Per cent of branch line mileage.....	56.53%	63.34%	53.88%

Since on the average the cost per mile of branch line is far less than that of main line construction, it must therefore be assumed that the relatively high construction cost in Washington is concentrated in Washington's extensive terminals and mountain construction.

In the N. P. Tax Case, Mr. Donnelly, the N. P.'s president, admitted that the N. P. would not be susceptible of profitable operation if its terminals at either end should disappear (Rec. p. 5784). Obviously the terminals contribute to the earnings of a railroad as much as its rails.

In the N. P. Business Tax Case, the N. P. showed that in 1934, out of a total operating expense in Washington apportioned to freight service amounting to \$8,496,275, at least \$1,771,489 or 20.85% was incurred for freight switching service in ten Washington terminals alone. (See schedule No. 22.)

In *Great Northern Railway Co. v. Weeks*, 297 U. S. 135, the plaintiff railroad attacked its North Dakota assessments for 1932 and 1933. The following is quoted from the brief of the Great Northern's general counsel in that case:

"It is obvious that a railroad could not exist and function without terminals. It is in the terminals that separate cars are combined into large trains so that freight can be moved over the road in large volume, and it is through the destination terminals that the large trains are broken up and delivery effected.

Without terminals, cars would have to be moved as they might come upon the road in trains of from one to half a dozen cars and at greatly increased cost and at much higher rates. It is perfectly apparent that the terminals play as large a part in effecting the transportation between consignor and consignee as do the transcontinental tracks.

"The same thing is true of mountain tunnels. By piercing a mountain with a single mile of tunnel costing a million dollars, we may avoid building a hundred miles of roundabout line at an even greater cost. The single mile of tunnel may contribute as much to the efficiency of transportation as a hundred miles of roundabout trackage. Transportation involves not only the overcoming of space resistance but also all other natural obstacles such as rivers and mountains. Plant which is required to bridge rivers, pierce mountains or elevate traffic over a mountain range contributes as much to the final result as does the trackage which is laid across a level prairie and which overcomes nothing but space.

"It follows that a million dollars invested in a single mile of terminals or in a single mile of bridge or tunnel is as much entitled to a return upon every dollar of the investment, as is a million dollars which is spread out over 100 miles of prairie line. If this were not so, no investor could be found who would provide the funds for construction of the more costly parts of the line. The fact that a million dollars worth of investment is spread over more miles in one state than in another is no indication that it contributes more to the total transportation result or that it is entitled to a larger share of the system value.

"About $\frac{1}{3}$ of all operating costs are incurred in terminals. As measured by cost, therefore, about $\frac{1}{3}$ of the total transportation effort is expended in the terminals and $\frac{1}{3}$ of the total transportation service is performed there. This would indicate that the use value of the terminals, based on the actual service they perform is a very substantial part of the total use value or commercial value of the system.

"It is true that the system may not earn an adequate return upon its entire cost and its commercial value may be far below its reproduction cost. * * * But however small the return may be, the money which is invested in tunnels and terminals is entitled to share in that return dollar for dollar with the money which may be spread out over more miles of cheap line in North Dakota.

"It is also obvious that whatever value the terminals and costly mountain construction may have is included in the total system value of the property, when that system value is computed upon the basis of earnings or stock and bond prices. The stock and bond prices depend upon the earnings and the earn-

ings are the joint product of all portions of the line and all of the service. They are the result of the terminal and mountain operations as much as they are of the ordinary line trackage. Therefore, when we apportion system value between states, whatever the basis of apportionment may be, we are apportioning a value which includes the value of the terminals as well as that of the miles of road, and we must see to it that the method of apportionment credits back the terminal portion of the system value to the state where they belong and that it does not spread them over intermediate states. These propositions are axiomatic but they are lost sight of in the arguments which are advanced in favor of the mileage prorates of system value and it is, therefore, important that we have them in mind before discussing the effects of the mileage prorates." (Petitioner's Brief, pp. 35-37.)

And quoting further:

"Taxes are levied against property to pay for the exercise of the functions of government in the state where the property is located. The state where terminals are located provides the police and fire protection for the terminal property. It also provides for highway access, education of the children of terminal employes and of all other governmental functions. The intermediate states provide none of these things and incur no governmental expenses because of the terminal property. It is a universal rule that property should be taxed where located, and there is not the slightest reason for any exception in the case of railroad terminal property." (Petitioner's Brief, p. 39.)

Distribution of value inhering in relative high construction cost:

As earlier pointed out, in *Wallace v. Hines*, 253 U. S. 66, the Supreme Court condemned an allocation factor failing to reflect relative construction cost.

It is a matter of common knowledge that Washington is a state of relatively high construction costs because of natural obstructions to be overcome in crossing the Cascades and numerous water courses. The cost of reproduction less depreciation of bridges and tunnels owned and used by the N. P. in Washington and for the system as of June 30, 1917, as shown by the I. C. C. figures, was as follows (see schedule No. 23):

	<i>System</i>	<i>Washington</i>	<i>Per Cent in Washington</i>
Tunnels and subways.....	\$6,898,191	\$4,174,386	60.51%
Bridges, trestles and culverts.....	25,237,843	9,862,687	39.08%
Total	\$32,136,034	\$14,037,073	43.68%

It has been argued that the part of the system value represented by terminal facilities and tunnels, bridges, and other elements of high construction cost, should not properly be localized to Washington for taxation purposes, for the reason that the terminals are constructed for the benefit of the entire system, and that tunnels, bridges, etc., are constructed to overcome natural obstacles, and that the railroad would be more profitable if the offending mountains and rivers did not exist.

This argument is fallacious in the extreme. Suppose the N. P.'s Seattle terminals were owned by a separate company sharing in the revenue from the traffic handled, could it then be denied that the entire value of such terminals for taxation purposes was located in King county?

Suppose that the N. P.'s Cascade tunnel or its bridge over the Columbia were owned by a separate company collecting toll for the use of its property, would anyone seriously urge that the entire value of such tunnel or bridge should not be taxed to the owning company in the particular county where located? Clearly not.

Surely no different rule applies simply because the use and ownership of such terminals, tunnels, and bridges are combined in the same company.

The striking manner in which the use of the line haul and track mileage factors proposed by the N. P. may actually indicate a loss instead of a gain in railroad value within the state as a result of costly construction therein is thus pointed out to the United States supreme court by the Great Northern's counsel in the *Weeks* case (297 U. S. 135):

"The towns of Skykomish and Leavenworth, Wash., separated by a mountain barrier, could have been connected by 150 miles of 1% grade over the summit or by 50 miles of line using tunnels. The company chose the latter alternative at great cost, and by the erection of a costly and valuable plant, thereby reducing from 150 to 50, the number of track miles, car and engine miles, ton and passenger miles and the mileage pro-rate of gross revenue between these two points in Washington. Because a more costly, more efficient and more valuable plant was built between Skykomish and Leavenworth, the amount of through revenue and the amount of system value allocated to this segment of line under the North Dakota formula are reduced to one-third. The better and more concentrated the railroad plant becomes the less it is worth. On the other hand, the

value which is thus taken away from the improved part of the line is spread over the unimproved portions. The effect is to give to North Dakota and other states a correspondingly larger percentage of the total system track miles, operating miles and service miles and, therefore, of the system value.

"Presumably the heavier tunnel investment reduced operating expenses and thus increased system net earnings and stock and bond values, so that under the North Dakota method, North Dakota and every other state would claim a higher percentage of a higher system value, and, therefore, several million dollars more value in North Dakota because of the creation of valuable property in Washington. Because Washington contained a more costly plant, North Dakota would be given a higher value and Washington a lower value than would be the case if we had constructed a cheaper plant in Washington or had chosen the alternative of constructing more miles of less usefulness and less value in Washington.

"And after the original tunnel line had been completed between Skykomish and Leavenworth, Wash., the company built a still longer tunnel at a lower grade and made other line revisions at a cost of \$26,000,000 which effected a further shortening of 18 miles of distance and presumably reduced operating expenses and increased the system value accordingly. The effect of this improvement in Washington was to still further reduce the percent of all mileage factors in Washington and to correspondingly increase them all in North Dakota and other states, thus again giving to North Dakota under the state's formula a yet higher percentage of a still higher system value, and giving Washington a smaller percentage, not because of any improvement in North Dakota but because of the creation of additional plant in Washington." (Petitioner's Brief, pp. 53-55.)

For the reasons so clearly expressed by the Great Northern's general counsel, it would seem that percentages proposed as allocation factors which give no weight to the distribution of relative terminal values and costly mountain construction, can be said to shed but little light upon the system value properly to be apportioned to Washington.

Proposed line haul factors ignore joint facility rental values:

Another significant fact is that in the computation of these proposed line haul factors, neither the operating revenues, car and locomotive miles, nor ton and passenger miles of tenant lines are included.

The N. P. owns and operates, as part of its system, a line running southerly from Seattle to Tacoma, a distance of 39.2

miles, and thence south to Vancouver, Washington, a distance from Tacoma of 132.7 miles. (Rec. N. P. Tax case, p. 3718.) Two lines are operated south from Tacoma to Tenino, one known as the Prairie line, and the other known as the Point Defiance line. On January 1, 1910, the N. P. entered into contracts with the Great Northern and the Oregon-Washington (now Union Pacific) for the use of the N. P. tracks between Portland and Seattle. This road is double-tracked to afford the facilities for these common user rights, and the line is now ample for the three roads. The G. N. operates over the N. P. line between Seattle and Vancouver, using the Prairie line between Tacoma and Tenino. The Union Pacific operates over the N. P. lines between Tacoma and Vancouver, using the Point Defiance line. The joint user agreements run for 999 years. The compensation paid by the tenant companies is arrived at in two ways: (1) the rental feature is covered by a percentage of one-third of 5% of the investment in the property; and (2) the operating feature is fixed on a wheelage basis according to the relative use made of the tracks by the individual companies. The general effect of these joint user agreements is that in addition to the fixed rental, the tenant companies pay their fair share of the operating expenses incident to the maintenance of way and structures, including taxes. Consequently, the fixed rental received by the N. P. is virtually a net figure, in the sense that no operating expenses or property taxes are deductible therefrom. Thus, in the year 1934 the N. P. received in joint facility rentals from these two tenant companies, the sum of \$1,092,569, and in addition, the tenants' fair share of the operating expenses and taxes. (See schedule No. 24.)

Nor is this net income off-set by joint facility rentals paid by the N. P. to other roads in Washington. We find that between 1931 and 1935 the N. P. received in joint facility rents (including contribution of taxes) from its properties in Washington more than it paid out in such rentals the following sums: in 1931, \$1,270,536, in 1932, \$1,378,302, in 1933, \$1,355,064, in 1934, \$1,302,225 and in 1935, \$1,278,826, or a five-year annual average of \$1,316,990. Using 6% as a fair capitalization rate, we find that the possessory rights of tenants in the N. P.'s real operating properties in Washington were alone worth to the N. P. the sum

of \$21,949,833, besides which the N. P. has the right to the use of such properties for its own operations.

But, as we said before, none of this immense value is in any way reflected by any one of these three line haul allocation factors, since neither the operating revenues, car or locomotive miles, or ton or passenger miles are included in the computation of the factors.

Nor can it be said that this added value is reflected in the assessment of the property of the tenant companies. Where one road operates over the lines of another, nothing but the rolling stock and equipment of the tenant company is assessed to that company. *State ex rel. Hellar v. Jackson*, 82 Wash. 351.

It goes without saying, of course, that the utility value of a given piece of railroad operating property is measured by the value of the use made of it by all carriers—not by the owning carrier alone. It must follow that the relative value of such jointly used property to the owning company must be measured by the value of *all* uses made of it, whether by the owner or its tenants. Hence, if we use an allocation factor which fails to reflect the use made of property by tenant lines, obviously another factor should be added reflecting such rental value.

But, urges the carrier, if we had the exclusive use of the Seattle-Vancouver line we would be better off than if we received these rentals, for then we would get all the traffic of the tenant lines, which might be worth more to us than the rentals we now receive. The short answer is, of course, that if the tenant carriers did not use the N. P.'s tracks, they would construct roads of their own, in which case the N. P. would have the same competitive conditions as at present, with no consoling rentals.

Value of branch lines as feeders:

One of the important elements of value of branch lines is their contribution of long haul business to the main line. Safe to say, if the N. P. had no branches it would be unable to pay even operating expenses. Branch lines, in themselves, very frequently will be shown on a segregation of earnings and expenses, to be unprofitable, but when it is considered that a branch line may originate freight travelling, say 25 miles on the

branch, and 1,000 miles or more on the balance of the system, the traffic-producing value of the branch becomes apparent.

Can it be said that this peculiar value of these branch lines where the traffic is comparatively sparse, is adequately measured by these line haul factors reflecting only relative traffic density? As to a state containing a branch line and no main line the injustice of using relative car and locomotive miles as the sole measure of the relative value of its lines would be at once apparent. But how would the injustice of using that line haul factor alone be cured by the addition of the others? Clearly not by either relative ton and passenger miles or relative gross revenues, for they would serve but to aggravate the wrong. Nor would the injustice be rectified by adding the relative all tracks and relative physical property factors save only to the extent of the weight given to those factors.

We will later show that in recognition of their peculiar value as main line feeders, branch lines are commonly allowed far more than a mileage prorate division of the through tariffs.

As already shown, over 63% of the N. P. lines in Washington are branches, as compared with about 54% for the remainder of the system. It is apparent, then, that to the extent that branch line mileage preponderates over main line mileage in Washington as compared with the balance of the system, Washington would be unjustly prejudiced by the use of these proposed line haul factors, as failing to reflect the value of such branches as main line feeders.

Having noted some of the vices common to these proposed line haul factors, we will now discuss separately the various apportionment factors proposed by the N. P.'s representatives.

(1) Relative mileage of track owned and operated.

Since equal weight is given to each mile of track whether it be a bridge, tunnel, or trestle, or whether it be in the desert, on a prairie, or on valuable urban lands, this method fails adequately to reflect either relative construction cost, or the relative value of terminal facilities such as shops, docks, yards, warehouses, etc.

The only purpose of using this factor seems to be to reflect the distribution of the system physical property among the states, and then only in a loose and wholly inadequate manner.

Surely, used alone, it can be said to reflect neither the relative extent of use nor the relative value of the use of the Company's property. The distribution of the Company's physical property, both line mileage and terminals being reflected with substantial accuracy, by the relative physical property factor proposed by the N. P., it seems both unnecessary and improper to use this faulty track mileage factor to accomplish the same purpose.

If used at all, it should, as we will show later, be used only to reflect relative operating expense, and not relative value.

(2) Relative car and locomotive mileage.

In computing this proposed factor, the same weight is given to locomotive miles and car miles. No distinction is made as to cars of different kinds, sizes, and capacities although these, of course, vary greatly, or cars loaded, partly loaded or entirely empty. The proposed factor in no way reflects the distribution of either terminal values, the value measured by joint facility rentals, the value of branch lines as feeders, or the elements of value represented by construction cost.

From a statistical standpoint it is interesting, but valueless as a guide to relative value of the system operating property except possibly as indicating relative expense in the manner shown later.

(3) Relative traffic units.

This method erroneously assumes that where traffic is densest, values are greatest. It assumes that all traffic is of equal value from a transportation standpoint which is palpably absurd. Ton miles are added to passenger miles. Of course these have no relation to each other save as figures on paper. Ton miles and passenger miles are quite incommensurable things. If, to correct this weakness, an attempt were made (which it is not) to reduce all traffic to terms of one particular kind, the resultant factor would be the same as relative gross revenues, and consequently would add nothing to the showing made by that proposed factor.

Like relative car or locomotive mileage, this proposed factor in no way reflects the distribution of either terminal values, the use by joint tenants, the value of branch lines as feeders, or the elements of value represented by construction cost.

It reflects only relative expense, not revenues, as we will show later.

(4) Relative operating revenues.

It is plain that this factor is proposed merely as a substitute for relative net revenues, whereas, since net revenues depend upon relative operating expenses as well as relative gross revenues, there is no necessary relation between relative gross and relative net. *Minnesota Rate Cases*, 230 U. S. 352, 458-9. Again, since in computing the factor, interstate revenues are apportioned on a mileage of haul basis, the factor to that extent ignores the relative value of branch lines as feeders, relative terminal values, and relative construction costs. And since the revenues received by tenant lines are not included in the computations, the factor wholly ignores that part of the value of lines reflected by the extent of their use by tenant companies.

Unfairness to terminal state of mileage prorate division of interstate operating revenues.

In Census Bulletin 21, Professor Meyer says as to the relative gross revenues factor:

"Gross revenues are affected by a great number of factors running through the entire list of items in operating expenses, rates, length of the haul, etc., a variation in any one of which will necessitate a different interpretation of gross-revenue statistics for purposes of valuation. The conclusion is thus forced upon one that net rather than gross revenues constitute the logical basis for the distribution of the total value of railways systems among the states.

" * * * The interstate earnings are usually divided for each shipment on a mileage basis. * * * The pure mileage basis of prorating receipts from interstate shipments throws too much of the earnings into the district of dense traffic and low unit cost of haulage. As is pointed out in the letter on page 44, '60 per cent of all the traffic of the whole line went to or was shipped from the branch lines. It therefore appears that if these branch lines had not existed, the whole system would have earned only 40 per cent of its previous earnings, which would have made the main line as worthless as the branches.' The pure mileage ratio basis of apportioning the gross earnings of an interstate transaction will, in most cases, yield the branches too small a portion and the main line too great a portion. Probably good argument could be brought in support of the proposition that on an interstate shipment the branch should be allowed

the local charge and the main line the remainder; but if this be thought to go too far toward increasing the earnings of the outlying parts, certainly the branch ought to receive the same proportion of the total earnings in any single shipment as its local is of the sum of the locals for the entire route covered.

* * *

"For reasons like those here advanced branch lines frequently receive payments on the basis of a constructive mileage. Prorating on a constructive mileage is also done in connection with transcontinental traffic, the practice dating back to a time when the real or assumed cost of operation was greater and the tactical position of the lines was such that they could command a return on a constructive mileage basis. Only where individual interstate shipments are thus prorated, and the earnings within the state added, can the total of the gross earnings assigned to a state be as nearly correct as it should be. * * *"

The unfairness of such mileage prorate apportionment was thus recognized by the late F. M. Dudley, counsel for the Milwaukee road during the course of the trial of the Milwaukee Tax Case:

"In an important rate case in Montana we found we were confronted with annual reports showing state net income revenues as this does. A gain in Montana was shown for the year 1920 of \$5,000,000, and a net loss on the system of \$8,000,000, although Montana was one of the poorest states as far as producing revenue was concerned. That directed our attention a short time ago to the fact that you could not correctly apportion net revenues as between states because costs are apportioned on one basis and revenues on another.

"For instance, a train of lumber originating on Puget Sound is transported to Minnesota transfer. The cost incurred in making up that train, switching and all that, is charged to Washington because that cost is incurred in Washington. Then the revenues are apportioned on a ton mile prorate, so that (on) that trainload, moving unchanged across the continent, Montana would receive a large portion of the revenues because it is a state in which the main line is very long; but it would not be charged with any of the initial or delivering costs incurred in Washington or in Minnesota. Consequently, Montana would show a profit and Minnesota and Washington a loss, which is not fair.

"In order to avoid a similar situation in the future, it was decided to put in these reports a note to the effect the company did not agree the statement of net earnings as shown by the report was a correct report in that state.

"That same note is put into the reports in any state where we are required to make such a report." (Rec. p. 743.)

Freight tariffs are intended to cover cost of service plus a return on investment. To quote from the testimony of E. V. Peterson, the N. P.'s statistician on the N. P.'s behalf in the N. P. Business Tax Case:

"You ask if I believe that revenues should be apportioned with some relation to the service rendered by the company in connection with their haulage. That is the theory behind the division on the basis of the haul. That is, that the revenues compensate for the service rendered. Where included in a line haul charge, our total revenue from the shipment is supposed to cover our entire cost, plus a reasonable profit for the entire service, line haul and switching and all the other services rendered by the company. Switching service on interstate shipments, where we do our own switching, is included in the rate that we charge. We do not charge any additional sum for our switching service. You ask whether, in using a mileage prorate division of the interstate revenue, we do not consider only the line haul. That is a factor based on the line haul, yes. The company furnishes a large amount of service in connection with the movement of that traffic which is included in the tariff aside from the purely line haul. You ask what services are rendered aside from the purely line haul. I will say that it includes the large expenses in connection with switching, also handling of freight at terminals for both classes of traffic, both intrastate and interstate." (Rec. p. 120.)

As earlier noted, in the N. P. Business Tax Case the N. P. proved that in 1934, 20.85% of its operating expenses in Washington assignable to freight service was incurred in switching operations in ten terminals of the state. (See schedule No. 22.)

Besides this switching expense, we must note the comparatively high expense incident to the assembling and distribution of interstate freight on the branch lines. As already pointed out, the N. P.'s proportion of branch line mileage in Washington is more than 63% as compared with about 54% for the balance of the system. It is generally recognized that the operating expense, per revenue ton mile, on the branches greatly exceeds that on the main line. Again quoting from the testimony of E. V. Peterson on behalf of the N. P. in the N. P. Business Tax Case:

"For the year 1931 in the state of Washington, that being the last year for which a separation as between main line and

branch line expenses is available, the cost per net ton mile for main line including so-called larger terminals was 84c per hundred net ton miles as compared with \$1.32 on the branch lines, or, in other words, the branch line unit operating cost was 57.1% higher than the main line unit operating cost." (Rec. p. 243.)

At the hearing on the N. P. 1937 assessment, Mr. Peterson testified that the differential was about 100% on an average.

Obviously, this comparatively high operating expense on Washington's branch lines is wholly ignored in the mileage pro-rate apportionment.

Nor is the unfairness of the mileage prorated division evidenced alone by its failure to take into account terminal expenses and comparatively high branch line unit operating costs. The assembling and distribution of long haul interstate traffic is made possible by the existence of valuable terminal facilities adapted to this very purpose. These terminals are as essential to the railroad from an earnings standpoint, as are the connecting roadway and track. Clearly, in distributing the revenues equitably among states, the terminals are entitled to the same yield on the investment represented thereby, as is the naked track in the non-terminal states. Consequently, if we are to apportion interstate revenues among states so as adequately to reflect relative net earnings, we must allow to terminal states such proportion as will not only cover the operating expenses there incurred, but will likewise yield a return upon the investment in those states where the traffic is assembled and distributed equivalent to the return realized by the Company from its system operations.

That revenues from interstate freight traffic should properly be apportioned to the several states according to relative cost of the service rendered, is made clear if we assume that Washington's costly terminals, tunnels and bridges owned by the N. P. were in fact owned and operated by independent companies which either collected toll or participated in the interstate revenues. In such case, clearly the toll or divisions exacted by such independent companies would be based primarily on the cost of service including a return on the investment, and the revenues received would afford a proper basis

for the valuation in Washington for taxation purposes of such tunnels, bridges and terminal properties.

The comments of some of the railroad companies' witnesses in the 1925-6 railroad tax cases are instructive. O. B. Riddle, statistician for the S. P. & S., testified that the division of interstate revenue on a mileage basis "isn't a fair method," and went on to explain:

"Take the S. P. & S. which operates only in Washington and Oregon. The earnings in each state are indispensable to the earnings in the other state and to the whole property. If we didn't have the property we have in Washington we wouldn't make anything in Oregon; and if we didn't have the property in Oregon we wouldn't make anything in Washington. And moreover, the way revenues are allocated according to the Department of Public Works (the mileage prorate), they do not show the actual results. For instance, on a shipment Spokane to Portland with \$100 revenue, say: under the way we are required between states, we would assign about \$3.00 to Oregon; but property in the state of Oregon which cost 20% as to the total property between the points is used in that transportation movement. On that \$100 on the freight movement, 3% would be in Oregon. But more than 20% of the entire investment in the whole property engaged in that movement would be in Oregon.

"You could compare it with an interstate bridge over a river, say ten miles long. Two miles in one state and eight miles in the other. On the two miles in the one state the draw span might be, and might require attention and a force all the time. The operating expenses on that bridge, if allocated to the state as we are compelled to do in this kind of a statement, the operation of the draw span would be probably 80% of the total, and we would be required to allocate 80% to the state which had the two miles. With the revenue from hauling freight over that bridge, on that basis we would be able to allocate only 20% of the revenue to that state and 80% to the other. Part of that bridge would have a big deficit and part a good sized earning. We don't believe that a proper method. * * *

"If the same business was handled by two lines, one corporation with its line being the line owned in the State of Washington, and the other one being all the lines owned in the State of Oregon, in that case, if each company kept separate books, and there were no common officials of the two lines, the expenses would show separately. But in that case the revenues certainly would not be apportioned on a mileage basis, because the company in Oregon would require a larger division of (than) the mileage prorate; otherwise they wouldn't be able to live.

We would always be in the red in Oregon, if that were the situation because some of the terminal expenses in Oregon really apply to traffic the earnings of which would be allocated to the state of Washington on a mileage basis. * * * If there were two different corporations owning different lines, and one owned the line in the State of Washington, and the other owned that part of the line in the State of Oregon; in that case the Oregon line, I think, would always require a higher proportion of the charge than the one in Washington on a strict mileage basis." (Rec. S. P. & S. Tax Case, pp. 681-2; 702-3.)

R. W. Pickard, general freight agent of the S. P. & S., testified in the S. P. & S. Tax Case that it had been customary as long as he had known anything about it to make terminal allowance, i. e., a traffic charge to a terminal division for business terminating or originating in a particular terminal, in addition to what is represented merely by the mileage of haul within the terminal division. The allowance, he testified, is part of the division of revenue just the same as if included in the percentage proportion, either as a terminal arbitrary or increase in divisions, as a fair allowance to the line for the services performed and terminal facilities afforded. (Rec. pp. 701-2.)

In 76 I. C. C. 455, 457-8, it was said:

"We have held that a portion of a railroad system can not be separated from the whole and the earnings and expenses charged and credited to such portion on a mileage prorate basis. *Investigation of Advances in Rates on Grain*, 21 I. C. C. 22, 25; *Louisville & Nashville R. R. Coal and Coke Rates*, 26 I. C. C. 20, 30. It is well known that a mileage prorate of transportation revenues or expenses will in many cases result in a showing of deficits for branch lines of light traffic density, notwithstanding the showing for the system as a whole is a substantial profit."

In 203 I. C. C., 299, at 335, the Commission said:

"Cost of service, including the burden of carrying the necessary investment, ought to be the factor of primary importance in fixing the division of joint rates."

There, the I. C. C., recognizing the cost of service and heavy investment in the mountain lines, allowed divisions equivalent to a mileage prorate with every mile west of the Missouri river computed at 1 $\frac{1}{4}$ miles.

In 188 I. C. C. 605, a level of rates was established on cottonseed, etc., 15% higher in the west. In 190 I. C. C. 611, livestock rates were made 10% higher in the western territory. In 147

I. C. C. 581 and other cases, the Commission fixed class rates in Mountain-Pacific territory 15% higher than those fixed east of the Montana-Dakota line. In 192 I. C. C. 135, rates on petroleum products were made 10% to 15% higher for the Montana haul than in Western North Dakota. In 179 I. C. C. 435 and 192 I. C. C. 599, rates on refined petroleum average 10% higher in the west than in the territory east.

The injustice of apportioning to terminal states only a mileage prorate division of interstate revenues, is strikingly evidenced by the fact that such division would result in portions of the system of recognized value being consistently operated at a loss, even in years of comparatively adequate system earnings. This we find to be true of the Oregon and Wisconsin sections of the N. P. road. E. V. Peterson testified for the N. P. in the N. P. Business Tax Case:

"The N. P. reports to the regulatory bodies of Oregon and Wisconsin. The states of Wisconsin and Oregon have a considerably higher expense because of the short mileage in the state and the terminal operations in that state. In making its reports to the Wisconsin and Oregon regulatory bodies it used the same basis of allocation to the state as it did the state of Washington. The net revenue from operations in the state shows a deficit for the year 1933 for Wisconsin and Oregon. I know that has been true for a good many years. No, I would not say that the lines in Oregon and Wisconsin are not a valuable part of the N. P. system. * * * It does not mean that the N. P. system would profit by having the portion of its system located in Oregon and Wisconsin eliminated." (Rec. pp. 121-2.)

Thus, the N. P.'s average annual net railway operating income for 1922 was \$19,450,514 and for 1923, \$17,100,557. (See schedule No. 1.) The use of the mileage prorate division in apportioning interstate operating revenues to Wisconsin and Oregon resulted in operating deficits in those states as follows, without in either case considering state taxes: In Wisconsin: in 1922, \$377,564 and in 1923, \$387,018; in Oregon: in 1922, \$94,870 and in 1923, \$133,449. This condition was shown to have existed for 15 or 20 years theretofore. (Rec. N. P. Tax Case, pp. 2966-2974.)

The use of the mileage prorate division of interstate revenues of the S. P. & S. for the years 1921 to 1925, inclusive, produced the following remarkable results: Net railway operating income

for the entire system, \$9,031,011; net railway operating income for *Washington alone*, \$11, 302,904; net railway operating income for Oregon alone, a deficit of \$2,271,892. (Rec. N. P. Tax Case, pp. 3073-41; Defs'. Ex. 248, p. 17.)

In the N. P. Tax Case, Mr. Donnelly, the N. P.'s president, thus recognized that a revenue apportionment method yielding such incongruous results would be improper:

The main mileage of the Northern Pacific in Wisconsin is between Superior and Ashland. It is small, he would say, as compared with the value of the terminals at Superior and Ashland. You would have to determine some method of allocating gross revenues on business moving into states. The usual method is that of a mileage prorate. Now the use of such a method could of course produce widely variant results; and he would admit at once that there are situations in which the use of such a method would not be a fair or proper method. If as a matter of fact, in the use of that method you wound up with a showing that there was no net railway operating income, and therefore no value for property which you knew of course did possess a value, that would be a demonstration of the impropriety of the use of that method. That would be particularly true where you knew the property itself was a valuable adjunct of the Northern Pacific. That is true of the Northern Pacific in Wisconsin. Our terminals at Superior and Ashland are valuable. (Rec. N. P. Tax Case, pp. 5805-5808.)

In actual practice, N. P. and other roads do not limit terminal lines and branches to mileage prorate of interline revenues.

We have no doubt but that railroad companies frequently keep separate accounts as to different portions of their roads for the purpose of testing their value to the system. If such be the case, such accounts are not before us. However, there are many cases where different portions of the system retain their separate corporate entity, in which cases, divisions of interline revenues must, of course, be made between different portions of the system. Fortunately, we need not leave the state for examples of this character of organization.

For example,—prior to 1906, the Chicago, Milwaukee & St. Paul Railway Company (the "Old Milwaukee") operated a system of railroad extending from the Missouri river at Mobridge, S. D., on the west, easterly through the Twin Cities to Milwaukee and Chicago on the east. This system included a network

of road in South Dakota, Nebraska, Iowa, Minnesota, Wisconsin and Illinois. In April, 1906, this company, through the medium of subsidiary companies, commenced the construction of a line from the Missouri river to Seattle. These subsidiaries were consolidated on December 31, 1908, into the Chicago, Milwaukee and Puget Sound Railway Company (the "Puget Sound" Company). The line was completed and in operation by September, 1909, and was operated independently from then on until January 1, 1913, when it was merged with the parent company.

Prior to December 31, 1918, when the same were merged with the old Milwaukee Company this company had also acquired by stock control, the following five subsidiaries: (1) The Tacoma Eastern, extending from Tacoma to Ashford, Washington; (2) Bellingham Bay and British Columbia (later the Bellingham and Northern) extending from Bellingham north to Lynden, Sumas and Glacier, Washington; (3) Milwaukee Terminal, a car ferry line; (4) the Seattle, Port Angeles & Western extending from a point about 12 miles west of Port Townsend, Washington, westerly about 75 miles (the Port Townsend and Puget Sound operated between Port Townsend and the eastern terminus of this road); and (5) the Puget Sound and Willapa Harbor extending from Maytown, on the Grays Harbor branch, to Willapa Harbor, about 75 miles.

The following table is prepared from the divisions sheets in force as between the old Milwaukee Company, the Puget Sound road and the Washington subsidiary companies prior to January 1, 1913, when the Puget Sound road was absorbed. The divisions are on through tariffs on various commodities hauled between Chicago on the east and Seattle and various representative points on the subsidiary lines and branches on the west, which were actually made as between these lines when separately operated. There being no division of tariffs as between the Washington portion of the Puget Sound line and the portion east of Washington, the amount allowed the Washington subsidiary was added to the mileage prorate of the amount allowed the Puget Sound line, thereby obtaining the amount apportionable to Washington:

DIVISIONS BETWEEN OLD MILWAUKEE AND WASHINGTON SUBSIDIARIES:

<i>Commodity; Termini of haul and route; (for abbreviations see below)</i>	<i>Thru rate per cwt.</i>	<i>Rate in cts. per cwt. to Wash. on mileage pr'r'te:</i>	<i>Rate in cts. per cwt. to Wash. under actual divi-sions:</i>	<i>Excess over Mile-age prorate allowed Washington: Cents Percent</i>	
Seattle to Chicago;					
Route: CM&PS and CM&St.P;					
Fir Lumber	\$.55	8.21c	10.14c	1.93c	23.51%
Cereals .....	.90	13.43c	16.41c	2.98c	22.19%
Port Angeles to Chicago;					
Route: SP&W, MT, CM&PS, and CM&St.P;					
Fir Lumber .....	.55	9.99c	19.58c	9.59c	96.00%
Canned goods .....	.85	15.44c	25.15c	9.71c	62.89%
Ashford to Chicago;					
Route: TE, CM&PS and CM&St.P;					
Fir Lumber .....	.55	9.76c	13.85c	4.09c	41.91%
Autos	3.00	53.10c	98.19c	45.09c	84.92%
Doty to Chicago;					
Route: PS&WH, CM&PS, and CM&St.P;					
Fir Lumber .....	.55	10.39c	15.34c	4.95c	47.64%
Junk .....	.60	11.33c	15.78c	4.45c	39.28%
Sumas to Chicago;					
Route: B&N, MT, CM&PS and CM&St.P;					
Fir Lumber .....	.55	10.71c	16.23c	5.52c	51.54%
Apples	1.00	19.47c	31.64c	12.17c	62.51%

Abbreviations:

- "B&N"—Bellingham & Northern;
 "CM&PS"—Chicago, Milwaukee & Puget Sound;
 "CM&St.P"—Chicago, Milwaukee & St. Paul;
 "MT"—Milwaukee Terminal;
 "PS&WH"—Puget Sound & Willapa Harbor;
 "SP&W"—Seattle, Port Angeles & Western;
 "TE"—Tacoma Eastern.

Up to the time of its recent merger, the Union Pacific system consisted of at least four corporate units: The Union Pacific Railroad (U. P.), the Oregon Short-line (O. S.L.), the Oregon-Washington Railroad and Navigation Company (O-W), and the Los Angeles & Salt Lake. The U. P. was the parent line with its principal termini at Omaha, Kansas City, Denver and Ogden. It had no tracks between Chicago and Kansas City—Council

Bluffs across the Missouri River from Omaha being its eastern terminus.

The O. S. L. owned the line running northwesterly from Granger, Wyoming, at which point it joined the U. P. Its western terminus was Huntington, which is approximately on the Oregon-Idaho state line. West of Huntington the system was in the corporate entity of the O-W which extended to Portland, Oregon, and Seattle as its western termini.

The U. P. owned all of the stock of the O. S. L., which latter road owned all of the stock of the O-W. The U. P., O. S. L. and O-W were operated as a transcontinental system from Portland and Seattle east to Omaha. Shipments from Omaha to Portland would go through Granger.

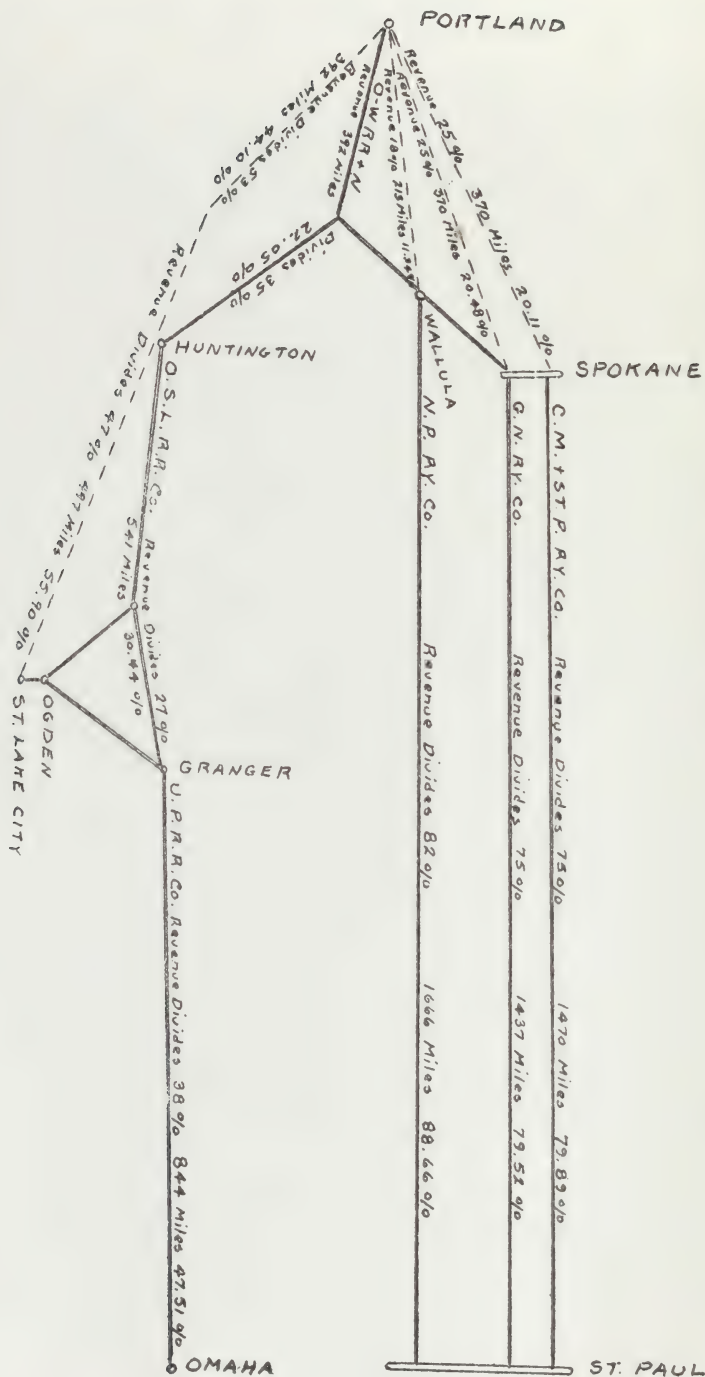
Prior to the merger, there had been divisions in force between the U. P., O. S. L. and O-W for several years. The O. S. L. delivered and received traffic interchanged between the U. P. units at Granger. The distances between various representative points are as follows: Seattle to Huntington, 572 miles; Portland to Huntington, 389 miles; Huntington to Granger, 541 miles; Granger to Omaha, 844 miles; Omaha to Chicago, 489 miles; St. Paul to Chicago, via the Burlington, 431 miles.

Since the distance from Omaha to Chicago is but 58 miles less than that from St. Paul to Chicago, and the distance from Portland to Huntington but ten miles less than that from Seattle to Spokane via the N. P., there is a striking similarity between the relation of the O-W to the U. P. system and the relation of the N. P. lines in Washington to the remainder of the system. Consequently it would seem that the divisions voluntarily made between these three units of the U. P. system is some evidence of what divisions of interstate revenues would be equitable as between the N. P. road in Washington and the balance of the system.

The divisions of interline revenues on traffic between Omaha and all points on the O-W west of Huntington were: 35% to the O-W, 27% to the O. S. L. and 38% to the U. P. If the traffic originated on or was destined to points on connections of the O-W, say, south of Portland, and was hauled to or from Omaha via the U. P. system, the proportion allowed such con-

nection would be first deducted from the through rate, and the balance divided on the above percentages among the U. P. system units.

The following graph indicates the relation of these divisions to a mileage prorate division, including the divisions between the S. P. & S. on the one hand and the Milwaukee, Great Northern, and N. P. on the other on Portland-St. Paul traffic:



The following table shows the percentage of freight revenue actually received by the different U. P. system units on shipments between Omaha and Seattle and Portland as compared with the revenue those units would have received on a mileage prorate division:

DIVISIONS OF INTERLINE REVENUE AS BETWEEN THREE UNITS OF UNION PACIFIC:

Road and Termini:	Miles of Haul:	Percentage of interline tariff:			Percentage of difference between actual division and mileage prorate:
		Actual- ly re- ceived	Mileage Prorate:	Differ- ence	
Shipment between Portland and Omaha					
Union Pacific, Omaha to Granger.....	344	38.00%	47.56%	9.56%	20.10% less
Oregon Shortline, Granger to Huntington.....	541	27.00%	30.51%	3.51%	11.50% less
Oregon-Washington, Huntington to Portland.....	389	35.00%	21.93%	13.07%	59.60% more
Totals.....	1774	100.00%	100.00%	0.00%	.....
Shipment between Seattle and Omaha					
Union Pacific, Omaha to Granger.....	344	38.00%	43.13%	5.13%	11.89% less
Oregon Shortline, Granger to Huntington.....	541	27.00%	27.64%	0.64%	2.32% less
Oregon-Washington, Huntington to Seattle.....	572	35.00%	29.23%	5.77%	19.74% more
Totals.....	1957	100.00%	100.00%	0.00%	.....

But the best evidence of the inadequacy of a mileage prorate apportionment to the N. P. Washington lines would seem to be the actual practice followed in this regard by the N. P. and S. P. & S. system, as revealed by the evidence in the N. P. Tax Case. In the following analysis, references are to the N. P. record and exhibits in that case.

The S. P. & S. operates from Spokane, its eastern terminus, southwesterly through Pasco, to Portland, Oregon, and thence to Astoria and Seaside, Oregon. As subsidiary lines the S. P. & S. owns the Oregon Trunk (O. T.) extending (in 1926) from its junction with the S. P. & S. at Wishram, Washington, southerly across the Columbia River, 151.5 miles (Rec., N. P.

Tax Case, p. 9084) to Bend, Oregon; the Oregon Electric (O. E.) running from Portland south to Eugene, Oregon, 122.7 miles (Rec., pp. 9084-5) and the United Railways (U. R.) extending from Linnton, Oregon, on the S. P. & S., to Keasy, Oregon, 49.7 miles (Rec., p. 9086). The Gales Creek and Wilson River (G. C.) extends from Wilkesboro, on the United Railways, 19.2 miles from Linnton, to Glenwood, Oregon, a distance of 12.8 miles.

The N. P. and Great Northern (G. N.) each own one-half of the stock of the S. P. & S. (Rec., pp. 616-8). The S. P. & S. in turn controls by stock ownership the Oregon Trunk, the Oregon Electric and United Railways (Rec., pp. 617, 5611). The stock of the Gales Creek & Wilson River is owned by N. P. and Great Northern subsidiaries.

Thus upon reaching Spokane, the N. P. proceeds southwesterly to Pasco and thence through Yakima, and Ellensburg to Puget Sound, and thence north to Sumas and south to Portland, with numerous branch lines. As above explained, the S. P. & S. proceeds southwesterly from Spokane along the Columbia River to Portland and Astoria with numerous branch lines but mostly still retaining their separate corporate entities.

The distance from Spokane to Seattle via the N. P. is 399 miles; the distance from Spokane to Portland via the S. P. & S. is 378 miles.

R. W. Pickard, general freight agent of the S. P. & S. testified that if the N. P. lines west of Spokane were acquired and operated by an independent company, they would be treated the same as the lines from Spokane to Portland; i. e., 25% to the S. P. & S. and something additional on account of terminal expense. That if the rates were made to points on branch lines somewhat higher than the terminal rate (which is customary in connection with certain commodity rates), then the N. P. lines west of Spokane would get 25% of the west of Missouri River proportion, plus whatever such arbitrary might be over the terminal rate. (Rec., N. P. Tax Case, pp. 9412-13.)

In this connection, Charles Donnelly, president of the N. P., testified:

"Q. Take Spokane, then, which does have considerable terminal facilities. In that event it would be perfectly possible

to assume the situation where one line owned the railroad east of Spokane and the other line owned the railroad west of Spokane? A. It would be possible to assume such a case, yes. Q. In that event a fair division of the revenues as between interline shipments between those two companies would be to pay first the operating expenses of both roads and divide the balance on the rate of reproduction cost less depreciation of the roads would it not? A. I suppose the best evidence of what would be fair between them would be to consider what has actually been done. In the case you are supposing, there is a case that is actually realizable on the railroad map as it stands. The Northern Pacific serves the City of Spokane and then goes on to Puget Sound. But there is another railroad extending from Spokane, the S. P. & S., extending down the Columbia River to the City of Portland. We agree on a division with the Spokane, Portland & Seattle; we give them a certain percentage of the through rate. That percentage, of course, is expected to be sufficient, under normal conditions with all other traffic, to yield operating expenses and a return. To date it has not yielded such return on that property. * * * Q. Let us assume that is all the traffic the two roads have, this interline traffic. In that event would it be fair to divide the revenue in such way that each road would first pay operating expenses and then each road would return the same percentage of profit upon the investment cost? A. Yes, I think that would be fair." (Rec., N. P. Tax Case, pp. 5787-5789.)

The following were shown to be the divisions in force for many years between the N. P. and S. P. & S. and its subsidiaries (References to N. P. Tax Case):

In its divisions of interline revenues on transcontinental traffic to and from points south and west of Portland the S. P. & S. was in general allowed a deduction of 5c per cwt. from the through rate for terminal expense, if such through rate exceeds 75c per 100 lbs., but otherwise 2½c per 100 lbs. which includes lumber. (Rec., p. 9090-1.) This terminal arbitrary is the equivalent of the average revenue received on lumber between Portland and St. Paul for 75 miles of haul. Thus: the distance from St. Paul to Portland is 1883 miles; the rate on lumber, 62½c per 100 lbs. (Rec., p. 9131); the average rate per mile is $62\frac{1}{2}c \div 1883$ or about 1/30th of a cent per mile, or 2½c for 75 miles.

On traffic hauled via the S. P. & S. to or from points on the N. P. north of Vancouver, a deduction of 5c per 100 lbs. is in

general made from the through rate for terminal expense, and added to the N. P.'s proportion.

In considering divisions between the N. P. and the S. P. & S. and its subsidiaries, points on the G. N. and N. P. east of the Montana state line are called "transcontinental territory." (Rec., pp. 9087-8.) As between Portland and transcontinental territory, where the transfer is made at Spokane, the division is 25% to the S. P. & S., the terminal arbitrary being first allowed to the S. P. & S. (Rec., pp. 9098-9.) Where the transfer is made at Pasco, the division is 15% to the S. P. & S., the terminal arbitrary being first allowed to the S. P. & S. (Rec., p. 9105.) The same divisions are made on eastbound and westbound business. (Rec., p. 9106.)

As to business originating on, or destined to, points on the Oregon Trunk, Oregon Electric, United Railways, the Gales Creek, or the branch extending from Portland to Seaside, an arbitrary allowance (with the local rate as the maximum) is first set aside to the subsidiary or branch; the terminal arbitrary of 5c or 2½c is next set aside to the S. P. & S. and the latter is then allowed 25% of the balance of earnings on transcontinental traffic, where the transfer is made at Spokane. (Rec., p. 9100), and 15% where the transfer is made at Pasco. (Rec., p. 9105-6.)

On shipments of wheat from Snake River points on the N. P. via Pasco and the S. P. & S., the S. P. & S. is allowed, as will be seen, considerably less than a mileage prorate, and out of this it is, besides required to absorb any switching charge at Portland. (Rec., pp. 9128-9.)

The following table shows the divisions both in percentages and in cents per cwt. allowed to the S. P. & S. and its subsidiaries as compared with the mileage prorate division, on shipments of various representative commodities via the N. P., the transfer being made at Spokane unless otherwise noted. (Rec., pp. 9079-96; 9101-2, 9113, 9117-8, 9124-8, 9131):

**DIVISIONS ON INTERLINE SHIPMENTS BETWEEN N. P. AND S. P. & S. AND ITS
SUBSIDIARIES:**

Commodity; termini of haul and route: (for abbreviations see below)	Thru rate per cwt.	Miles haul on S. P. & S. and sub.	Division on mileage prorate:		As actually divided:		Excess over mileage prorate allowed S. P. & S. and Sub.
			Cents	Per Cent	Cents	Per Cent	
Lbr., Portland, Ore., to St. Paul, via SP&S and NP	62.5	377.5	12.53c	20.05%	17.50c	28.00%	39.66%
Lbr., Bend, Ore., to St. Paul, via OT, SP&S and NP	62.5	422.9	13.71c	21.94%	22.38c	35.81%	63.24%
—Same (transfer at Pasco) ..	62.5	276.1	8.96c	14.33%	17.03c	27.25%	90.07%
Lbr., Keasy, Ore., to St. Paul, via GC, UR, SP&S and NP	62.5	434.5	14.00c	22.40%	24.25c	38.80%	73.21%
Hops, Salem, Ore., to Chicago, via OE, SP&S, NP and CB&Q	108.75	428.5	19.65c	18.06%	47.40c	43.56%	141.22%
Lbr., Holliday, Ore., to St. Paul, via AE, SP&S and NP	62.5	496.6	15.51c	24.81%	22.38c	35.80%	44.29%
Lbr., Winlock, Wn., to St. Paul, via NP, SP&S and NP (NP terminal carrier both ends)	62.5	367.5	11.86c	18.97%	10.00c	16.00%	—15.68%†
Wheat, Lewiston, Ida., to Portland, via NP to Pasco and SP&S to Port- land	*23.30	230.7	14.53c	62.35%	10.30c	44.21%	—29.11%†
Wheat, Dayton, Wn., to Portland, via NP to Pasco and SP&S to Port- land	*18.30	230.7	12.77c	69.76%	10.30c	57.89%	—19.34%†

Note: * 24.00c less average switching charge borne by S. P. & S. —0.70c.

† Percentage less than mileage prorate.

Abbreviations:

"NP"—Northern Pacific;
 "UR"—United Railways;
 "GC"—Gales Creek & W. R.;
 "OE"—Oregon Electric;
 "SP&S"—Spokane, Portland & Seattle;
 "OT"—Oregon Trunk;
 "AE"—Portland-Astoria branch;
 "CB&Q"—Chicago, Burlington & Quincy.

We have already mentioned the peculiar value of branch lines as main line feeders. It is to be observed that in actual practice, and for this reason, railroads, in dividing interline rev-

enues, allow such branch lines far more than a mileage prorate division of the through tariff.

Mr. Donnelly, the N. P.'s president, testified in the N. P. Tax Case that in determining whether a given branch line was a paying piece of road, and whether or not it should be abandoned or retained he certainly thought that the branch should be entitled to an allowance of something more than a mileage proportion of the revenues accruing on business originating at or destined to points on that branch. That he thought it was customary to allow them something known as constructive mileage in determining whether or not they were paying integral parts of the system. (Rec., pp. 5782-4.)

The following table shows the divisions in percentages and cents per cwt., allowed by the Old Milwaukee Company to its Washington subsidiaries, prior to their merger with the parent line, as compared with the mileage prorate division, on shipments of various representative commodities via the Puget Sound and the Old Milwaukee Road:

**DIVISIONS ON INTERLINE SHIPMENTS BETWEEN BRANCH LINES OF OLD-
MILWAUKEE ROAD AND PARENT LINES:**

Commodity; termini of haul, route and thru rate; (for abbreviations see below)	Miles of Haul:		Divisions on mileage prorate:		As actually divided:		Excess over mileage prorate allowed branch
	On Branch	Total	Cents	Per Cent	Cents	Per Cent	
Seattle to Chicago, via CM&PS and CM&St.P;	(CM&PS)						
Lbr. Rate: 55c.....	1372.7	2169.2	34.80c	63.28%	43.00c	78.18%	23.56%
Same—Cereals & cereal products; Rate: 90c.....	(CM&PS) 1372.7	2169.2	56.95c	63.28%	69.60c	77.33%	22.21%
Sumas to Chicago, via B&N, CM&PS, and CM &St.P.	(B&N)						
Lbr. Rate: 55c.....	25.1	2291.6	0.602c	1.095%	5.00c	9.09%	730.56%
Same—Apples;	(B&N)						
Rate: \$1.00.....	25.1	2291.6	1.095c	1.095%	6.25c	6.25%	470.78%
Pt. Angeles to Chicago, via (SPA&W, PT&PS, and MT), CM&PS and CM&St.P.	(Lines in brackets)						
Lbr. Rate: 55c.....	85.9	2255.1	2.096c	3.81%	11.50c	20.91%	448.66%
Same—Canned goods;	(Same)						
Rate: 85c.....	85.9	2255.1	3.240c	3.81%	12.60c	14.82%	288.89%
Ashford to Chicago, via TE, CM&PS and CM& St.P.;	(TE)						
Lbr. Rate: 55c.....	55.1	2243.6	1.35c	2.45%	4.00c	7.27%	196.30%
Same—Autos;							
Rate: \$3.00.....	55.1	2243.6	7.35c	2.45%	55.75c	25.00%	658.50%
Doty to Chicago, via PS &WH, CM&PS and CM &St.P.;	(PS&WH)						
Lbr. Rate: 55c.....	37.6	2275.4	0.908c	1.65%	5.00c	9.09%	450.66%
Same—Junk;	(PS&WH)						
Rate: 60c.....	37.6	2275.4	0.990c	1.65%	4.18c	6.97%	322.22%

Abbreviations:

"CM&PS"—Chicago, Milwaukee & Puget Sound;
 "CM&St.P"—Chicago, Milwaukee & St. Paul;
 "B&N"—Bellingham and Northern;
 "SPA&W"—Seattle, Port Angeles and Western;
 "PT&PS"—Port Townsend and Puget Sound;
 "MT"—Milwaukee Terminal;
 "TE"—Tacoma Eastern;
 "PS&WH"—Puget Sound and Willapa Harbor.

The following table shows the divisions in percentages and cents per cwt., allowed the subsidiaries of the S. P. & S., and its Astoria Extension, as compared with the mileage prorate division, on shipments of various representative commodities via the S. P. & S. and N. P., and also shipments over branch lines of the N. P. in Eastern Washington to Portland via the S. P. & S.:

**DIVISIONS ON INTERLINE SHIPMENTS BETWEEN BRANCH LINES OF N. P. AND
S. P. & S. AND PARENT LINES:**

<i>Commodity; termini of haul, route and thru rate; (for abbreviations see below)</i>	<i>Miles of Haul:</i>		<i>Divisions on mileage prorate:</i>		<i>As actually divided:</i>		<i>Excess over mileage prorate allowed branch</i>
	<i>On Branch</i>	<i>Total</i>	<i>Cents</i>	<i>Per Cent</i>	<i>Cents</i>	<i>Per Cent</i>	
Lbr., Bend, Ore., to St. Paul, via OT, SP&S and NP; Rate: 62.5c.....	(OT) 151.5	1927.9	4.91c	7.86%	9.00c	14.40%	83.30%
Lbr., Keasey, Ore., to St. Paul, via GC, UR, SP&S and NP; Rate: 62.50c.....	(GC&UR) 49.7	1939.5	1.60c	2.56%	9.00c	14.40%	462.50%
Hops, Salem, Ore., to Chicago, via OE, SP&S, NP and CB&Q; Rate: 108.75c.....	(OE) 51.0	2372.5	2.34c	2.15%	29.50c	27.11%	1160.68%
Lbr., Holliday, Ore., to St. Paul, via AE to Portland, thence SP&S and NP; Rate: 62.5c.....	(AE) 119.1	2001.6	3.73c	5.95%	6.50c	10.40%	74.26%
Wheat, Lewiston, Ida., to Portland, via NP to Pasco and SP&S to Portland; Rate: 23.30c*.....	(SP&S) 230.7	370.0	14.53c	62.35%	10.30c	44.21%	-29.11%†
Wheat, Dayton, Wn., to Portland, via NP to Pasco, and SP&S to Portland; Rate: 18.30c*.....	(SP&S) 230.7	330.7	12.77c	69.76%	10.30c	57.89%	-19.34%†

Abbreviations:

"NP"—Northern Pacific;

"SP&S"—Spokane, Portland & Seattle;

"OT"—Oregon Trunk;

"OE"—Oregon Electric;

"UR"—United Railways;

"GC"—Gales Creek and Wilson River;

"CB&Q"—Chicago, Burlington & Quincy;

"AE"—Portland-Astoria branch or extension of the S. P. & S.

Note: * Rate less average switching charge borne by S. P. & S.—0.70c.

† Percentage less than mileage prorate.

The reason why the N. P. branches in Eastern Washington were properly allowed more than a mileage prorate on wheat shipments to Portland via the S. P. & S. was thus explained by R. W. Pickard, general freight agent of the S. P. & S.:

This wheat business comes in large volume. The S. P. & S. runs 75-car and 85-car trains down the river with an average load of 40 tons, or, in the case of a 75-car train, a trainload of

3,000 tons for which it receives \$6,000 for a haul of 231 miles handled with one locomotive and one crew. Obviously that is a profit-bearing, and an exceedingly attractive traffic. Contrasted with this, the N. P. assembles this grain traffic on many branch lines and delivers it to the S. P. & S. at Pasco. The essential reason why a strictly mileage prorate is unfair from the standpoint of the N. P. is the expense which that company has in assembling the traffic on many branch lines and bringing it in several small lots to Pasco. In October, 1925, the S. P. & S. handled 1091 cars of grain from Pasco to Portland, received from the N. P. originating at 122 different stations on the N. P. in Oregon, Washington and Idaho. Over 90% of those stations are located on branch lines, since that is where a large portion of its grain traffic originates. Obviously the expense of sending empty cars up onto the branch lines, one, two, three or four cars, to individual warehouses at different stations, and picking these cars up on branch lines and bringing them to the main line, and making them into trains and bringing them to Pasco, is more expensive than handling the grain in train-loads after being assembled and the N. P. is consequently entitled to earn more per mile than the S. P. & S. handling it in volume as it does between Pasco and Portland. The regulatory bodies of Washington and Oregon, and many other bodies recognize that rates should be higher from branch line points than from main line points because of this. The N. P. is entitled to a greater division than that based on a purely mileage prorate because it gathers the traffic on its branch lines. That is universally true in the making of divisions under such conditions. (Rec., N. P. Tax Case pp. 9141, 9343-51, 9402.)

That either relative car miles, ton and passenger miles or gross revenues with interstate revenues apportioned on a mileage prorate invariably yields the terminal states an inequitable proportion of the system value is shown by the following simple illustration:

(Volume of traffic same between each station and each of the other stations.)

State "A"	State "B" Railroad "X"	State "C"	State "Y"
o _____	o _____	o _____	o _____
Sta. "D" 100 miles	Sta. "E" 100 miles	Sta. "F" 100 miles	Sta. "G"
R _____	_____	_____	_____
S _____	_____	_____	_____
T _____	_____	_____	_____
U _____	_____	_____	_____
V _____	_____	_____	_____
W _____	_____	_____	_____

The foregoing graph represents four adjoining states, "A" "B" and "C," traversed by a 300-mile railroad with 100 miles of line in each state (except "Y" which has no mileage), each mile having the same replacement cost. On this railroad there are but four stations, each on a state border line, Station "D" in State "A," Station "E" in State "B," Station "F" in State "C" and Station "G" in State "Y." The same amount of freight and the same number of cars move each year between each of these stations, and each of the other three stations. This freight all moves in carload lots and is so distributed that there is no movement of empty cars. The rate or tariff per ton-mile is the same for all freight movements. This being true, line "R" represents the proportion of system car-mileage, ton-mileage, or freight revenue, as the case may be, as to freight movements between stations "E" and "F." Line "S" represents the same as to freight moving between stations "D" and "F," and so on as to each of the lines indicated.

The aggregate length of lines "R" to "W" is thus equal to 10 lines the length of one state (other than "Y"), of which three or 30% are in the terminal State "A," 30% in State "C," 40% in the intermediate State "B," and none in State "Y." It is therefore apparent from this graph that while $\frac{1}{3}$ of the track and line mileage of the railroad is located in each of States "A," "B" and "C," the "bridge" state, "B," has 40% and each of states "A" and "C" only 30% of either the system car-mileage, system ton-mileage or system gross revenues, *while State "Y" with its terminals but no trackage has none whatever.*

It likewise appears that the four states, "A," "B," "C" and "Y" have either originated or distributed such traffic in the following percentages of the total: State "A," 30%, State "B," 20%, and State "C," 20%, and State "Y" (whose traffic density factor would be zero!), 30%. In other words, State "B" whose contribution of traffic is only $\frac{2}{3}$ that of State "A," receives $\frac{1}{3}$ more of the system value although the cost and track-mileage is the same. And State "Y," which contributes 30% of the traffic, receives none of the system value whatever, *because it has terminals but no line mileage.*

It is also true that however complex the operations of this railroad—however many stations or branch lines are added, and

whatever the relative mileage in the various states, the middle or "bridge" state is bound to receive more than its equitable share of system value when measured either in whole or in part by either relative car-mileage, relative ton-mileage or relative gross revenues apportioned on a mileage prorate.

Straight average of relative track mileage, car and locomotive mileage, traffic units, and operating revenues.

While seemingly recognizing that no one of these proposed factors, taken alone, is a reliable guide to the distribution of system value, the representatives of the N. P. and some other roads have urged in the past that the straight average of the four (sometimes including relative reproduction cost), will cure the defects of each, and hence will produce the correct percentage.

The difficulty with this argument is that, taken alone, each of these proposed factors other than relative reproduction cost, obviously yields Washington too small a proportion of system value, and for the same principal reason: namely, failure to reflect the Washington terminal values and relatively high construction cost. Obviously, averaging the four, whatever may be the relative weight accorded each, leaves these terminal values still ignored. It can hardly be argued that the error of using proposed factors, each yielding Washington too small a percentage of value, is cancelled out by the use of the average of the four. *Louisville & N. R. Co. v. Bosworth*, 209 Fed. 380, 434.

True, if the relative reproduction cost factor be added to the calculation, Washington's loss would be reduced, but only by one-fifth her total loss resulting from the use of these four improper percentages.

Proper method of using proposed factors if used at all.

These four proposed factors are not intended to reflect the relative distribution of the replacement cost of the N. P.'s operating property. Such distribution is adequately indicated by the proposed relative physical property factor when used alone. These other four proposed factors must be intended, then, to indicate the distribution of system net earnings. Now, since net earnings are computed by deducting operating ex-

penses from gross revenues, it must follow that the *lower* the state's percentage of operating expenses as compared with its percentage of gross revenues, the *higher* is the indicated percentage of its net earnings. Track mileage and mileage of haul, whether it be of cars, locomotives, tonnage or passengers, must of necessity involve operating expense. Consequently, the lower the state's proportion of such track mileage and mileage of haul, the lower its proportion of operating expense.

The allocation factors (other than relative physical property), proposed by the N. P. for the year 1931 are as follows:

Relative operating revenues.....	28.32%
Relative car and locomotive mileage.....	23.44%
Relative ton miles plus passenger miles.....	25.62%
Relative track mileage owned and operated.....	29.77%

It thus appears that in 1931 the N. P. received from its Washington properties 28.32% of its gross operating revenues from only 25.62% of the total ton and passenger miles hauled and from but 23.44% of the total car and locomotive miles operated. Thus the N. P., in that year (and consistently in all other years), made more gross revenues per car and per ton and passenger mile in Washington than the average for the system, thereby indicating that, other things being equal, Washington's relative net earnings must have been greater than that indicated by its relative gross revenues. Had the N. P., in 1931, been put to the added expense of hauling one mile in the State of Washington 18,964,521 additional cars or locomotives and 115,615,728 additional passengers or tons of freight, and without receiving any additional compensation therefor, the relative car and locomotive mileage factor and relative ton miles plus passenger miles factor would have been increased to the same percentage as relative operating revenues, or 28.32%, and, according to the N. P.'s claim here, the value of its property in Washington would have been correspondingly increased! This result, it seems to us, demonstrates the fallacy of the contention made. Strange as it may seem to counsel, the lower the percentage shown by the factors other than relative gross revenues and relative replacement cost, the higher is the percentage of net earnings value shown to be in Washington.

How, then, should these proposed factors be used, if at all? The answer seems plain: Calculate therefrom as best we can

the net revenues indicated for Washington, and the relation of the Washington net revenues so computed to those of the system will be the composite allocation factor indicated by the use of these four proposed factors.

The relative operating revenues in Washington for 1931 were shown to be 28.32% of those of the system, or \$17,645,849, so we have no need to use any of the other proposed factors for the purpose of finding Washington's revenues for that year. The other proposed factors are useful, then, only as indicating Washington's proportion of the various items of system operating expense. We find that following the I. C. C.'s uniform system of accounting, the N. P., like other roads, groups its operating expenses under the following principal divisions:

- (a) *Maintenance of way and structures*;
- (b) *Maintenance of equipment*;
- (c) *Traffic* (i. e., expense incident to activities for increasing traffic, advertising, etc.);
- (d) *Transportation* (i. e., expense incident to the movement of traffic, such as cost of fuel, wages of trainmen, etc.);
- (e) *Miscellaneous operations* (a comparatively small item covering such expenses as dining car and restaurant service, operating stockyards, grain elevators, etc.);
- (f) *General* (administration expenses such as salaries of executives, office expense, law expenses, etc.);
- (g) *Transportation for investment* (a comparatively small credit item by which the company charges off of operating expense those expenses incurred in additions and betterments to its operating property, and representing capital outlays).

It seems clear that of the allocation factors proposed by the N. P., those properly to be used in apportioning these various groups of system expenses to Washington are the following:

- (a) *Maintenance of way and structures*—according to relative track mileage owned and operated;
- (b) *Maintenance of equipment*—according to relative car and locomotive mileage;
- (c-d-e) *Traffic, transportation and miscellaneous operations*—according to relative ton miles plus passenger miles;
- (f-g) *General, and transportation for investment*—according to relative track mileage owned and operated.

Apportioning these various groups of system operating expenses to Washington for 1931 according to the factors shown above we find the following indicated results for Washington: railway operating expenses, \$13,511,244.80; net revenues from railway operations, \$4,134,604.19; proportion of Washington net revenues from railway operations to those of the system: 40.419%. By adding to the amount thus indicated for Washington, Washington's proportion of earnings from equipment rentals and joint facility rents, and deducting tax accruals, we find that according to these four allocation factors proposed by the N. P., Washington's proportion of the system net revenue from railway operations and net railway operating income to be as follows for the periods indicated (see schedule No. 25):

<i>Period</i>	<i>Relative Net Railway Operating Income</i>	<i>Relative Net Revenues from Railway Operations</i>
1930-1934	39.02%	36.52%
1931-1935	38.69%	34.47%

Thus, these four allocation factors proposed by the N. P. tend rather to confirm than to disprove the results reached by using as the test of property distribution, as we have done, the percentages indicated by relative reproduction cost and relative net railway operating income less taxes.

On its face it perhaps seems unreasonable to attempt to apportion system operating expenses on a mileage basis. True, but is it any more so, than to ask Washington, with her terminals and costly construction, to accept for apportionment purposes, only a mileage prorate of the N. P.'s interstate freight revenues? If system revenues are to be apportioned as between states on a mileage basis, we agree with Mr. Dudley that operating costs should be likewise apportioned on a mileage basis.

Relative replacement cost allocation factor.

By this is meant the ratio between the replacement cost of the company's operating property in Washington and the replacement cost of the entire system. It is referred to by the N. P. as the "physical property" factor, and is computed as follows:

For the system: The cost of reproduction new less deprecia-

tion of the entire system operating property is computed from the I. C. C.'s final valuation as of June 30, 1917, and based upon prices of labor and material as of June 30, 1914. To this are added the net expenditures for additions and betterments from such valuation date to the end of the calendar year last preceding the assessment date, depreciated at the same percentages used by the I. C. C.

For the State of Washington: In the same manner, the cost of reproduction new less depreciation of the company's operating property (other than equipment) located in Washington is computed as of said valuation date, to which are added the depreciated net expenditures for additions and betterments from the valuation date. To this are added Washington's proportion of the cost of reproduction new less depreciation of the company's equipment, plus depreciated net expenditures for additions thereto. Washington's proportion of each kind of equipment (i. e., freight cars, passenger cars, locomotives, etc.) are determined by apportioning the same to Washington according to the relative number of miles the particular kind of equipment was operated within the state and over the system for the preceding calendar year.

It seems apparent that the use of the relative replacement cost factor meets, in the most practical manner, the objections to the relative mileage-of-line method of apportionment pointed out in *Wallace v. Hines*, ante, and the line haul factors and track mileage factor proposed by the N. P. It fully and fairly reflects the distribution of terminal properties and other operating property of relatively high cost. To some extent, it takes into account the distribution of those values inhering in joint facility rentals.

While this factor does not directly indicate the distribution of net earnings, it must be borne in mind that reproduction cost is a prime factor in determining rate-making value. Hence relative reproduction cost at least reflects relative rate-making value, and permissible rates are one of the important considerations in determining earning capacity. It must also be remembered that this factor represents the owner's conception of the distribution of the value of the system. True, the factor loses much of its importance from this standpoint as the age of the road increases. Yet it must be remembered that through addi-

tions and betterments the construction of a railroad is continually progressing, profitable sections being enlarged and improved, while unprofitable segments are sold, abandoned, or devoted to non-carrier uses. So that, even in case of roads operated for many years, relative reproduction cost still represents, at least in a limited way, the owner's views of relative value.

By and large, we are convinced that with the exception of the Turnburke method about to be explained, relative reproduction cost more nearly represents the true distribution of the operating property values of a railroad than any factor heretofore proposed. We also believe that it is a factor which should not be ignored even in the distribution of a system value indicated alone by the stock and bond method, a value based on anticipated earnings.

The Turnburke allocation method:

V. P. Turnburke, who seems to have been the first to urge the use of the allocation factor explained below, is general auditor of the Great Northern Railway Company and is a graduate civil engineer. For a number of years he followed railroad engineering, and has been engaged in railroad statistical work for at least eighteen years. He has acted as statistician for the Milwaukee and Great Northern Railways, and, during the World War, was manager of the operating statistics section of the United States railroad administration.

For many years the representatives of the various transcontinental railroads (including the G. N.) appearing before the Tax Commission in connection with the annual assessments of these companies' Washington operating properties, have insistently urged the Commission to apportion railroad system value to Washington by a composite factor computed by adding the percentages indicated by the allocation factors here proposed by the N. P., sometimes including, but oftener excluding relative reproduction cost.

Fully conscious of the fallability of these proposed allocation factors, and recognizing the obvious fact already noted that relative past net earnings, if determined with fair accuracy, would be ordinarily the best available guide to the distribution of a system value itself measured by earning power, Mr. Turn-

burke, at the trial of the case of *Great Northern Railway Co. v. Weeks*, 297 U. S. 135, proposed on behalf of the railroad company a method of allocation based upon relative net railway operating income less taxes paid. The use of this method was strenuously urged by the general counsel for the Great Northern not only in the district court but in the circuit court of appeals and the United States Supreme Court. Mr. Turnburke's proposal was based upon the following premises:

(1) Since taxes are themselves the subject of inquiry, the item of taxes should be excluded as an element of apportionment;

(2) The operating expenses (other than equipment rentals) can be determined by states and are reported to the various state taxing and regulatory boards with reasonable accuracy;

(3) A given state's proportion of system equipment and joint facility rentals, debit or credit, may be readily computed and equitably apportioned between freight and passenger service;

(4) Operating revenues other than revenues from interstate movements of freight and passengers may be localized and are reported to the various state taxing and regulatory boards with reasonable accuracy;

(5) A uniform rate per passenger mile being exacted of interstate passengers, the apportionment of interstate passenger revenues among states on a mileage prorate as reported is fair and equitable;

(6) The mileage prorate apportionment between states of the revenue from interstate freight movements is wholly arbitrary and unfair for the reason that freight rates are intended to cover the cost of service rendered plus a reasonable profit, and consequently such interstate freight revenues should be apportioned between states with due regard to the relative cost of service rendered in the states so traversed by such traffic, including a return on the operating property utilized in such service;

(7) Hence, in order to determine by states, and with reasonable accuracy, the company's net railway operating income (less taxes), the appraiser's problem is:

(a) To apportion to the taxing state the company's inter-

state freight revenues, not on a mileage prorate, but on the basis of the relative cost of service;

(b) To apportion to such taxing state its fair proportion of the equipment rents and uncollectible operating revenues; and

(c) From the carrier's reported state revenues and expenses as so modified and completed, to determine the indicated state net railway operating income less taxes;

(8) For taxation purposes, the taxing state is entitled to that proportion of the system value which such state net railway operating income, less taxes, bears to that of the system for the test period adopted.

In following Mr. Turnburke's method, the Commission's first problem was to allocate to Washington its proper proportion of revenue from interstate freight shipments on the basis of the relative cost of service. This, of course, involved a comparison of the total freight expense incurred in Washington with that of the remainder of the system. For purposes of illustration, we take the operations of the Northern Pacific for the year 1932.

Washington Freight Service Expense

The total operating expenses applicable to Washington freight service as reported by the N. P. for 1932 was \$8,921,754, or 72.318113% of its total operating expenses in Washington, freight and passenger.

To the above figure we must add or subtract Washington's proportion of the unappropriated system equipment rentals incident to freight service; i. e., freight cars, locomotives, and work equipment.

(1) *Freight cars.* For 1932 the N. P. as a system received (a) \$385,266 more than it paid out for hire of freight cars. This credit we apportion to Washington according to the relative number of freight car miles operated by the N. P. in Washington for 1932, or (b) 21.978310%; to-wit (a x b): \$84,675 (cr.).

Had this figure been a debit instead of a credit the item would have been added to, instead of deducted from, state freight expense.

(2) *Locomotives.* With this item we have a little more difficulty because, under railroad accounting methods, locomotives are not segregated as between freight and passenger, either for the state or system.

For 1932 the N. P. as a system received (a) \$130,174 more than it paid out for hire of locomotives, both freight and passenger. This income we apportion to Washington according to the relative number of locomotive miles, freight and passenger, operated in Washington for 1932 or (b) 30.232725%, or (a x b): \$39,355.

What proportion of this item should be apportioned to freight service? It is said by railroad statisticians that a reasonably accurate apportionment is relative freight expense, i. e., the relation of total operating expenses assigned to freight service to the total operating expense. This we find to be (d) 72.318113%. Hence the amount of credit apportioned to Washington by reason of the N. P.'s excess of \$130,174 of rentals received over those paid out for hire of locomotives for 1932 is (c x d): (cr.) \$28,461.

Here, too, the apportionment of a debit item would, of course, have been on the same basis.

(3) *Work equipment.* This system figure, like that of locomotives, is not apportioned as between freight and passenger. We therefore apportion to Washington the system figure which is a credit — (a) \$83,908 — on the basis of relative work car miles (b) 32.756226%; i. e., (a x b): \$27,485. This figure we then apportion to Washington freight service according to relative state freight expense, or (c) 72.318113%, thus apportioning to Washington a credit of (b x c): (cr.) \$19,877.

Total hire of equipment expense apportionable to Washington freight service: (cr.) \$133,013.

Joint facility rents:

For 1932 the N. P. received (a) \$1,378,302 for joint facility rentals in Washington more than it paid out. This credit figure we apportion to freight service according to relative state freight expense—(b) 72.318113%—or (a x b): (cr.) \$996,762.

Allowance for use of property:

On interstate operations obviously each state is entitled to the same return on the rate-making value of the property used in the service. Before deducting taxes, we find that in 1932 the N. P. as a system earned (a) 1.808858% on the cost of reproduction less depreciation of its system operating property, to-wit:

\$479,183,133. An equal return—(a) 1.808858%—on the cost of reproduction less depreciation of its Washington operating property—(b) \$158,615,857—would yield (a x b): \$2,869,136. Apportioning this figure to freight service according to relative state freight expense, or (c) 72.318113% we apportion to Washington for use of property in freight service the sum of (b x c): \$2,074,905.

Total 1932 expense incident to freight service except taxes:

From the foregoing calculations we find, then, that the total expenses other than taxes incurred by the N. P. in 1932 in its freight service operations in Washington were as follows:

Operating expenses applicable to freight service in Washington as reported by company.....	\$8,921,754
Hire of equipment..... (Cr.)	133,013
Joint facility rents..... (Cr.)	996,762
Allowance for use of property.....	2,074,905
Total.....	\$9,866,884

System Freight Service Expense

The total system operating expense applicable to freight as reported by the N. P. for 1932 was (a) \$29,196,122, or 70.465560% of its total system operating expenses, freight and passenger.

To this total (a) we must, as in the case of the Company's Washington operations, add or deduct as the case may be, the freight's proportion of the expense or credit incident to hire of equipment and joint facility rents, and to the resulting figure, add the allowance for use of property.

Hire of Equipment:

(1) *Freight cars.* This amounted to \$385,266, and was, of course, all apportionable to system freight service: (cr.) \$385,266.

(2) *Locomotives.* As previously noted, this system item of expense or income is not segregated as between freight and passenger service. For 1932 the N. P. as a system having received (a) \$130,174 more than it paid out for hire of locomotives, both freight and passenger, we apportion this item to freight service according to relative system freight expense, i. e., the relation of total system operating expenses assigned to freight service, to total system operating expenses, freight and passenger, or (b) 70.465560%, or a credit of (a x b): (cr.) \$91,728.

(3) *Work Equipment.* As earlier noted, this system figure, like that of locomotives, is not apportioned as between freight and passenger. We, therefore, apportion the total system credit item—(a) \$83,908—to system freight service according to relative system freight expense—(b) 70.465560%—or a credit of (a x b): (cr.) \$59,126.

Total hire of equipment expense apportionable to system freight service: (cr.) \$536,120.

Joint facility rents:

For 1932 the N. P. as a system received (a) \$2,466,395 for joint facility rents more than it paid out. This credit figure we apportion to freight service according to relative system freight expense—(b) 70.465560%—or (a x b): (cr.) \$1,737,959.

Allowance for use of property:

As previously noted, before deducting taxes, in 1932 the N. P. as a system earned (a) 1.808858% on the cost of reproduction less depreciation of its system operating property—(b) \$479,183,133—or a total of \$8,667,742 (a x b). Apportioning this figure to freight service according to relative system freight expense—(c) 70.465560%—we have, for this item: \$6,107,773.

Total 1932 system expense incident to freight service, except taxes:

From the foregoing, we find that the total expenses other than taxes incurred by the N. P. in 1932 in its system freight service operations were as follows:

System operating expenses applicable to freight service as reported	\$29,196,122
Hire of equipment..... (Cr.)	536,120
Joint facility rents..... (Cr.)	1,737,959
Allowance for use of property.....	6,107,773
Total.....	\$33,029,816

Division of Interstate Revenues on Basis of Cost

Having now before us the N. P.'s total expenses for 1932 incident to freight service both for Washington and the system, we are in a position to compute for that year the N. P.'s cost per 1,000 revenue net ton miles of hauling freight in Washington as well as on that part of the system outside of Washington. Having likewise before us for 1932, the N. P.'s interstate revenue

net ton miles both for Washington and the system, we can determine for 1932, the N. P.'s relative cost of hauling interstate freight in Washington, and by applying this percentage to the total system interstate freight revenue for the year we are able to compute the interstate freight revenue properly apportionable to Washington on the basis of relative cost of service. Adding to this latter total computed interstate freight revenue, the intrastate freight revenue reported by the Company, we then have the total freight revenue, intra and interstate, properly apportionable to Washington. Thus:

	<i>System</i>	<i>Washington</i>	<i>All Other States</i>
(a) Expense incident to freight service①.....	\$33,029,816	\$9,866,884	\$23,162,932
(b) Total revenue net ton miles of freight, intra and interstate (in thousands) as reported.....	3,087,635	753,722	2,333,913
(c) Cost per 1,000 revenue net ton miles① (a ÷ b) ..	.....	\$13.090,880	\$9.924,505
(d) Total interstate revenue net ton miles (thousands)	2,529,186	427,671	2,101,515
(e) Cost of service as to interstate freight① (c × d) .	\$26,455,086	\$5,598,590	\$20,856,496
(f) Percentage of cost of interstate freight service①.	100.00	21.162623%	78.837377%
(g) Interstate freight revenue for system as reported	\$29,227,615	.....	.....
(h) Division of system interstate freight revenue on basis of relative cost① (f × g).....	.....	\$6,185,330	\$23,042,285
(i) Intrastate freight revenue in Washington as reported .....	.....	5,497,482	.....
(j) Total freight revenue properly apportionable to Washington (h + i) .....	.....	\$11,682,812	.....

① Less taxes.

Uncollectible Railway Operating Revenue Assignable to Washington

The N. P.'s total uncollectible railway operating revenue for 1932 for the system was \$23,209, all of which is, of course, assignable to freight service. This debit item is properly apportionable to Washington on the basis of relative system freight revenues earned in Washington. Thus:

(a) Total freight operating revenues for system.....	\$38,789,246
(b) Freight operating revenues assignable to Washington as above computed	11,682,812
(c) Percentage of system freight operating revenues assignable to Washington (b ÷ a).....	30.118688%
(d) Total system uncollectible railway operating revenues....	\$23,209
(e) Total uncollectible railway operating revenues assignable to Washington (c × d).....	6,990

Hire of Equipment and Joint Facility Rents Assignable to Washington, Both Freight and Passenger

For the purpose of determining the expenses incident to freight service in Washington we have already computed the expenses or credits assignable to Washington freight service

arising from hire of equipment and joint facility rents. But in order to compute the net railway operating income, less taxes earned by the Company's lines in Washington, we must compute the total amount of these credits assignable to Washington in both freight and passenger service. Thus:

Hire of equipment:

(1) *Freight cars.* This, obviously, all pertains to freight service, and, as already computed, the following credit item was assignable to Washington for 1932: (cr.) \$84,675.

(2) *Passenger train cars.* For 1932 the N. P. as a system received (a) \$25,787 less than it paid out for hire of passenger train cars. This debit item we apportion to Washington according to relative system passenger car miles operated in Washington—(b) 26.649174%—or (a x b): (dr.) \$6,872.

(3) *Locomotives.* As previously noted, this was a system credit item of (a) \$130,174, and is apportionable to Washington according to the relative system locomotive miles operated in Washington—(b) 30.232725%—or (a x b): (cr.) \$39,355.

(4) *Work Equipment.* As already shown, this was a system credit item of (a) \$83,908 and is apportionable to Washington according to the relative system work car miles operated in Washington—(b) 32.756226%—or (a x b): (cr.) \$27,485.

Total amount assignable to Washington for hire of equipment, both freight and passenger: (cr.) \$144,643.

Joint facility rents:

As heretofore noted, for 1932 the N. P. received the following amount for joint facility rentals in Washington more than it paid out: \$1,378,302.

PERCENTAGE OF SYSTEM NET RAILWAY OPERATING INCOME (LESS TAXES) EARNED IN WASHINGTON

By net railway operating income is meant the total railway operating revenues less railway operating expenses, railway tax accruals, and uncollectible railway revenue, to which are added the debit or credit items of equipment rents and joint facility rents. These amounts being now all available, we are in a position to compute the net railway operating income, less taxes, of

the lines in Washington, and thus secure Washington's percentage of the system figure. Thus:

Washington		
Railway operating revenues:		
Freight (intrastate) as reported.....		\$5,497,482
Freight (interstate)		6,185,330
All other (ln. 44 — ln. 1, p. 700, Rep. D. P. W.).....		2,274,716
Total		\$13,957,528
Railway operating expenses.....	\$12,336,819	
Uncollectible railway revenues.....	6,990	
Equipment rents	(Cr.) 144,643	
Joint facility rents.....	(Cr.) 1,378,302	\$10,820,864
N. P.'s net railway operating income in Washington for 1932, excluding taxes		
		(a) \$3,136,664
System		
N. P. system net railway operating income for 1932, includ- ing taxes as reported.....		
		\$1,990,389
Railway tax accruals.....		6,677,355
N. P.'s system net railway operating income for 1932, less tax accruals		
		(b) 8,667,744
Washington's proportion of N. P.'s system net railway oper- ating income for 1932, excluding taxes (a ÷ b).....		
		36.187779%

After careful consideration, we are satisfied that the state percentages of system value indicated by the application of the Turnburke method of allocation when used in connection with the relative reproduction cost factor as hereinafter explained more closely reflects the distribution by states of the commercial system value of the N. P. railroad than do the percentages yielded by any other apportionment method that has yet come to our notice. From an earnings standpoint, the Turnburke method gives fair and adequate consideration to terminal values, relatively high construction cost, and to joint facility and equipment rentals.

We feel, however, that because the factor is based wholly on past operations, while the stock and bond purchaser is buying, not past, but future earnings, which in turn depend upon the efficiency of the plant, some weight should also be given to relative reproduction cost. The relative value of the N. P. Washington operating properties as of the respective assessment dates as indicated by relative reproduction cost (see schedule No. 27) and the Turnburke method averaged for one and five years is indicated by the following table (see schedule No. 28):

<i>Years Averaged</i>	<i>Assessment for Which Used</i>	<i>Turnburke Method</i>	<i>Relative Replace- ment Cost</i>
1934	1935	34.09%	33.10%
1930-1934, inclusive	1935	35.16%	
1935	1936	33.60%	33.11%
1931-1935, inclusive	1936	34.33%	

The work sheets showing the Commission's process in computing the percentages of N. P. system value in Washington for 1934 and the five-year averages ending in 1934 and 1935 reflected by the Turnburke method are set forth in schedules Nos. 29 to 38 inclusive.

In view of abnormal business conditions existing throughout the states served by the N. P. during the years 1932 and 1933, we believe it safer and more equitable to use the five year average indicated by the Turnburke method as to each assessment, and giving to this percentage two-thirds weight, and the relative reproduction cost factor, one-third weight, which results in a composite factor of 34.47% for the 1935 assessment and 33.92% for the 1936 assessment. These factors we find correctly indicate the distribution to the N. P.'s Washington properties as of March 1, 1935, and March 1, 1936, of the N. P.'s system value as computed by the stock and bond method.

Reproduction cost less depreciation. For the reasons pointed out by Judge Webster in *N. P. Ry. Co. v. Adams County*, 1 Fed. Supp. 163, 193-194, we believe this element should be given consideration in making the assessments now before us. There is no question but that the N. P.'s plant is far more extensive than is justified by either its present traffic or that future traffic upon which the market value of its securities are based. But, as we have said before, the market value of stock and bonds is predicated principally, if not entirely, upon anticipated earnings. Consequently, as much value would be reflected by the market value of the N. P.'s stock and bonds were its plant merely sufficient to handle the traffic anticipated by stock and bond purchasers. Thus, if stock and bond values were deemed the exclusive test of the value of the physical assets of the Company, the difference between that portion of the Company's plant sufficient only to handle such anticipated traffic, and the complete existing plant constructed to handle vastly more would go

wholly untaxed. This difference may be thought of as the plant's non-productive or latent element of value.

But like all other taxable property in Washington, railroads must be assessed for taxation whether productive or non-productive, and hence we must ascertain this latent value as well as of that which we may refer to as the productive element. In determining this latent value, reproduction cost must of necessity play an important part. Indeed, we know of no other method by which it may be determined.

The I. C. C. has determined as of June 30, 1917, the cost of reproduction less depreciation of that portion of the N. P. operating property in Washington other than equipment, with costs figured at 1914 prices of labor and material. To this figure has been added the additions and betterments subsequent to the valuation date depreciated by accounts at the depreciation factors used by the I. C. C. There has also been added Washington's proportion of the depreciated reproduction cost of the N. P.'s equipment computed in the same way. The allocation to Washington of the system figure thus arrived at has been made on the basis of the relative use made of the system's equipment during the last calendar year. Following this method, we find the cost of reproduction less depreciation of the N. P.'s operating property in Washington other than unappropriated materials and supplies on hand, to have been as follows: On December 31, 1934, \$156,901,317; and on December 31, 1935: \$156,313,054. (See schedule No. 27.)

The unappropriated materials and supplies on hand as of these two dates were respectively \$6,054,057 and \$6,088,305. Apportioning these items to Washington on the basis of relative mileage of track owned and operated, gives Washington \$1,829,937 and \$1,824,997 as of the two respective dates. Adding these figures to the above reproduction cost figures, we have a total of \$158,731,254 as of December 31, 1934, and \$158,138,051 as of December 31, 1935. (See schedule No. 27a.)

The N. P. contends that these figures are too high by reason of a shrinkage by as much as a third in the market value of its operating lands in Washington since the I. C. C. valuation date. Assuming without conceding this to be true, yet unquestionably the other elements of the reproduction cost of the N. P. operat-

ing property in Washington both between 1914 and 1935 and between 1914 and 1936 had increased in an aggregate amount far beyond the amount of any possible decrease in value of its lands held for transportation purposes. It is to be noted that the assessed values of all lands in Washington exclusive of that of railroad operating property and timber lands decreased during these periods only 23%. It is significant that at neither its hearing on the reassessments nor at its hearing on the 1937 assessment, did the N. P. make any effort to show the relative reconstruction cost of its Washington operating properties as between the I. C. C.'s valuation date and either 1935, 1936, or 1937. In schedule No. 27b attached, such a comparison is made with respect to the dates with which we are here concerned. We find that the reproduction cost new less depreciation of the N. P.'s operating properties in Washington was not less than \$158,731,-254 on December 31, 1934, and was not less than \$158,138,051 on December 31, 1935.

Conclusions as to value. The Commission has carefully considered all matters pertinent to the value of the N. P.'s operating property as of, and prior to, the respective assessment dates, including past earnings, the trend of earnings, stock and bond quotations, future prospects from an earning standpoint, its historical cost and its cost of reproduction new less depreciation, and has concluded that the cash market value of such of its operating properties as were located in Washington on said assessment dates is best reflected by giving 80% weight to properly allocated stock and bond values, with proper deductions therefrom for non-carrier and tax exempt property, and giving 20% weight to cost of reproduction new less depreciation of the N. P.'s operating property in Washington as of the end of the calendar year last preceding such assessment date.

Market value indicated by replacement cost and stock and bond quotations. The market value of the N. P.'s Washington operating properties as of the respective assessment dates indicated by apportioning to Washington 80% of the stock and bond system value reflected by one year market quotations of both stock and bonds, and adding thereto 20% of the cost of reproduction new less depreciation of the properties in Washington as of the end of the last calendar year is shown in the table that follows. In allocating to Washington the stock and bond sys-

tem value, one-third weight is given to relative reproduction cost and two-thirds weight to relative net railway operating income, less taxes, averaged over periods of five years:

	1935 Assessment	1936 Assessment
Market value of outstanding stock and bonds as reflected by market quotations for year ending February, 1934, as to 1935 assessment and year ending February, 1935, as to 1936 assessment	\$339,315,872	\$344,874,344
Deductions for non-carrier property as shown by previous tabulation	108,031,167	100,669,294
Value of N. P. system operating property indicated by one year average of stock and bond quotations.....	\$231,284,705	\$244,205,050
Proportion in Washington as indicated by giving one-third weight to relative replacement cost and two-thirds weight to relative net railway operating income less taxes, averaged for five years.....	34.47%	33.92%
Value thus apportioned to Washington.....	\$79,723,838	\$82,834,353
80% of above figure.....	63,779,070	66,267,482
20% of reproduction cost new less depreciation: 20% of \$158,-731,254 for 1935 assessment; 20% of \$158,138,051 for 1936 assessment	31,746,251	31,627,610
Value indicated of N. P. Washington operating properties.....	\$95,525,321	\$97,895,092

System value as indicated by market value of stock plus face value of funded debt.

The seeming theory upon which it is claimed that the market quotations of a company's outstanding stock and bonds reflect the market value of the corporate assets, is that such quotations indicate the figure at which all of the stock and bonds, and consequently all of the corporate assets may be purchased in the open market.

But is it not rather the market value of the stock plus the face value of the funded debt which best reveals the composite opinion of the investing public as to such value? Let us assume that an individual contemplates the purchase of a farm owned by "A" but subject to a \$2,000 mortgage, which mortgage may be purchased for, say, \$1,500. The prospective purchaser finds that "A" will sell his interest for \$1,000 and the mortgagee will sell his mortgage for \$1,500. Now, if such prospective purchaser actually buys the mortgagor's interest for \$1,000, and the mortgage for \$1,500, he pays, of course, only \$2,500 for the farm, and the entire transaction evidences that in such purchaser's opinion, the farm is worth \$2,500.

But if after buying the mortgagor's interest, the purchaser is for any reason unable or unwilling to purchase the mortgage, it is apparent that the ultimate price for which he purchases the farm is \$3,000, not \$2,500; and this would be true however many times, subsequent to the purchase of "A's" equity, the mortgage may have changed hands for either more or less than its face value. And in such case, when the purchaser, without buying the mortgage, pays \$1,000 for the mortgagor's equity, it is apparent that he does so believing that the farm's actual value is at least \$3,000, for it is \$3,000—not \$2,500—that he ultimately pays for it.

Comparing the assumed sale of the farm with sales of stock of a railroad corporation, the stockholders occupy the position of the mortgagor, the bondholders, the position of the mortgagee, with this difference, of course, that *it can never be assumed that the purchasers of a small fractional part of the stock make such purchase with the intention of buying up all or any considerable part of the outstanding bonds*. Neither does the bond purchaser contemplate buying the outstanding stock. Hence, so far as concerns the actual property rights he receives, it is wholly immaterial to such stock purchaser what the bonds are selling for. He receives only that fractional proportion of the excess of the actual value of the company's assets, over its liabilities, represented by the stock certificate which he purchases. And the price which such stock purchaser pays means but one thing (aside, of course, from the gambling element), namely, that in such purchaser's opinion the fractional proportion of the excess of the value of the company's assets over its liabilities represented by such stock certificate equals or exceeds what he pays. If the bonds are selling on the market for less than their face value, such stock purchaser does not get the benefit of the discount unless he actually buys them, an unjustified assumption, as we have said. If the bonds are selling above par, the stock purchaser is nevertheless obligated only to the extent of their face.

We cannot but be impressed with the following language of the court in *Missouri, I. & T. Ry. Co. v. Shannon*, 100 Tex. 379, 100 S. W. 138, 144:

"How would a business man proceed to ascertain the value of a certain piece of real estate which is subject to a mortgage;

that is to say, the value of the property as a whole and not the value of the equity of redemption? He would certainly consider that the property is worth the amount of the incumbrance and what it will sell for, subject to that incumbrance. So, if a railroad is bonded for a million of dollars and its shares at their market value are worth a half a million, it is reasonable to suppose *prima facie* that the property is worth a million and a half. But for the reason that the shares in a corporation may have a value above what they would have as a profit-paying property and its bonds may exceed its entire value, it would be arbitrary and unreasonable to require the taxing board to fix the sum of the bonds and market value of its shares absolutely as the value."

In defense of the use of the market value of both bonds and stock it is argued that the market quotations of the stock are influenced by the interest rates contracted to be paid on the bonds. This would doubtless be true did the bond purchasers and stock purchasers represent the same class of investors, an assumption we do not believe justified. It is well known that the great bulk of railroad bonds are held by insurance companies, trust companies, banks, and trustees and consequently are not the subject of frequent barter and sale. We cannot but believe that the market price of such of these bonds as are sold on the exchanges is influenced more by the current price of money than by the vicissitudes of the particular railroad by which they are secured.

Not so, however, with the stock purchasers and sellers the greater uncertainty of whose share in the earnings results in their keeping in relatively close touch with, and basing their bids or offers upon, current conditions tending to decrease or increase the road's earning power.

In this, our conclusions are, we believe, confirmed by the market quotations of the N. P.'s stock and bonds on the exchanges in the years 1934 and 1935, as shown by the following table:

Common Stock			Funded Debt	
	Par Value	Average Market Value	Par Value	Average Market Value
1934	\$248,000,000	\$60,088,333	\$310,207,500	\$278,433,315
1935	248,000,000	45,001,667	309,788,500	292,496,119

Thus, in 1935 the average market value of N. P.'s outstanding bonds was \$14,062,804 greater than in 1934, while during

the same period the average market value of the stock decreased \$15,086,666. Now, the dates of maturity and interest rates of the company's various outstanding bond issues were substantially the same in 1934 as in 1935. (See schedule No. 39.) The decrease in the market value of the stock was therefore not caused by a difference in such bond maturities or interest rates, but instead, indicated that in the opinion of those participating in the sale of 1,649,800 shares of stock, the commercial value of the N. P.'s assets was \$15,000,000 less in 1935 than in 1934.

It would seem, therefore, that where the stock of a corporation has a substantial market value and is extensively dealt in, the commercial value of such assets indicated by adding to the total indebtedness of the company, the market value of the outstanding stock as evidenced by market quotations cannot be ignored by the assessing board.

Value of N. P. operating property in Washington as indicated by giving 80% weight to value reflected by market value of stock plus par value of funded debt, and 20% weight to reproduction cost:

	1935 Assessment	1936 Assessment
Market value of outstanding stock as reflected by market quotations for year ending Feb., 1935, as to 1935 assessment, and year ending Feb., 1936, as to 1936 assessment (see Schedule No. 3)	\$55,567,500	\$49,186,666
Par value of funded debt as of end of years 1934 and 1935, respectively (see Schedule No. 5)	310,207,500	309,788,500
Total	\$365,775,000	\$358,975,166
Less deduction for non-carrier and tax exempt property	108,031,167	100,669,294
Indicated commercial value of system operating property	\$257,743,833	\$258,305,872
Proportion in Washington as indicated by giving one-third weight to relative replacement cost and two-thirds weight to relative net railway operating income less taxes, averaged for five years	34.47%	33.92%
Indicated commercial value thus apportioned to Washington ...	\$88,844,299	\$87,617,352
80% of above figure	71,075,439	70,093,882
20% of reproduction cost new less depreciation: 20% of \$158,731,254 for 1935 assessment; 20% of \$158,138,051 for 1936 assessment	31,746,251	31,627,610
Value indicated of N. P. Washington operating properties	\$102,821,690	\$101,721,492

Market value of N. P.'s operating property. Not only the market quotations of the stock but the reported net railway operating income and reproduction cost tend to reflect a lower value of the N. P.'s Washington operating properties in 1936 than in 1935. Such a result is reflected by the above computations based on the face value of the company's funded debt plus the market value of its stock. Moreover, the Turnburke

allocation method shows that the proportion of system net railway operating income, less taxes, earned in Washington was somewhat less in 1935 than in 1934. For these reasons the property's assessed valuation has been fixed somewhat lower for 1936 than for 1935.

At the time these reassessment proceedings were initiated the Commission believed from a study of the N. P.'s complaint in the pending suit and from the facts and calculations then before it including the depositions of the N. P.'s witnesses taken in such suit, that it had made an error in the N. P.'s assessments for both 1935 and 1936 and that the same were somewhat excessive. Since then, upon a closer analysis of the question of deductions for non-carrier and tax exempt property, as well as the problem of allocation of commercial system value, we have reached the conclusion that although there were errors in the method followed in making the original assessment for both years, yet we find that such errors resulted in a very conservative valuation for taxation purposes for both 1935 and 1936.

However, because in reaching our deduction figures for non-carrier and tax exempt property we have been compelled to use past net earnings as our chief guide as to the larger items, and there is consequently the possibility of an error of judgment in making such deductions, the commission finds, in view of all the facts before it, and making a generous allowance for such possible errors of judgment, that the 100% assessed valuation before equalization of the operating personal property and the operating real property of the Northern Pacific Railway Company in the State of Washington for the assessment years indicated should be, and hereby are, fixed at the same figures found in making its original assessments, to-wit:

Assessment Year	Real Operating Property	Personal Operating Property	Total Assessment
1935	\$79,320,000	\$10,680,000	\$90,000,000
1936	78,349,000	10,151,000	88,500,000

The fact that the values found by the Commission may approximate the results of certain calculations based on stock-and-bond quotations and replacement cost does not mean that these were the only matters considered. On the contrary, both in arriving at such values and in the choice of methods the Commission has considered all relevant facts and circumstances

bearing on the value of the N. P. railway system and of that portion within the state as of the respective assessment dates, including gross earnings, cost, present-day cost of reproduction less depreciation, earning capacity, future prospects and relative future prospects. It is, of course, apparent that certain indicia of value may be more persuasive on one valuation date than on others, and in valuing one property than in appraising another. The relative weight to be accorded those elements tending to reflect value must be dependent upon the peculiar conditions existing on the valuation date with respect to the specific property.

Equalization. Under the 1931 Reassessment Statute the Commission is required not only to assess the property but to equalize such assessment. The state board of equalization, in apportioning the taxes levied for state purposes for the years 1935 and 1936 fixed the ratio between the actual and assessed valuation of the taxable property in each of the counties of the state. These ratios are presumptively correct. No evidence was offered by the taxpayer herein involved tending to impeach the ratios so found by the state board for said years. The Commission therefore finds the equalization ratios for each of the years 1935 and 1936 to be applied to the assessed valuation of the real and personal operating property in Washington at the respective ratios fixed by the state board of equalization for such respective years for the distribution among the counties of the state of the tax levied for state purposes.

An order will be entered in conformity to the findings of the Commission herein set forth.

Dated the 2nd day of September, 1937.

TAX COMMISSION OF THE STATE OF WASHINGTON

By H. H. HENNEFORD, *Chairman,*

By T. M. JENNER, *Commissioner,*

By T. S. HEDGES, *Commissioner.*

COMMISSION'S ORDER

WHEREAS, The operating real and personal property of the Northern Pacific Railway Company, a corporation, was assessed for taxation purposes in the total sum of \$90,000,000 for the year 1935, and in the total sum of \$88,500,000 for the year 1936, and

WHEREAS, In December, 1936, said Company instituted a suit (the same being Equity Cause No. E-4476) in the United States District Court for the Eastern District of Washington, Northern Division, against the twenty-three counties through which it operates, their county commissioners and treasurers, seeking an injunction restraining the collection of a large portion of the taxes levied pursuant to the assessments for 1935 and 1936 on the operating real and personal property of said Company located in the State of Washington, in its complaint in which said suit it is alleged that the true cash market and taxable value of said Company's railroad operating property in Washington, both real and personal, did not exceed \$37,656,065 as of March 1st, 1935, and did not exceed \$32,078,647 as of March 1st, 1936, and

WHEREAS, It having appeared to the Tax Commission of the State of Washington from an examination of said complaint and the facts upon which the same was based that an error in taxation had occurred in the said assessments for 1935 and 1936 in the method followed by said Commission in arriving at the commercial system value of said Company's operating property and in the apportionment thereof to Washington, and that as a result of such error, such assessments each appeared to be excessive, and

WHEREAS, Said Commission, on June 8, 1937, pursuant to Chapter 106, Laws of 1931, duly adopted a resolution declaring its intention to reassess said property for the years 1935 and 1936, and thereafter notice thereof was duly published and personally served upon said Company, and mailed to the prosecuting attorney of each county affected, and

WHEREAS, On July 15, 1937, at 2:00 o'clock p. m., the time fixed for the hearing on such reassessment, the said Company appeared by its attorneys, L. B. daPonte and Robert S. Mac-

farlane, and submitted to the said Commission as its showing, the computations, set-ups, etc., theretofore submitted to said Commission and State Board of Equalization at the hearings afforded said Company on its original assessments in 1935 and 1936, said hearing thereupon having been duly and regularly adjourned until July 29, 1937, and

WHEREAS, On July 24, 1937, the said Commission, by resolution duly adopted and served on said Company's counsel and the interested prosecuting attorneys, continued said adjourned hearing to August 16, 1937, at 10:30 a. m., at which said adjourned hearing, R. G. Sharpe, assistant attorney general, representing said Commission, submitted certain data and matters for the Commission's consideration, but the said Company failed to submit any further evidence or make any further showing, and said hearing was thereupon concluded;

And the said Commission having duly considered all evidence, arguments and matters before it, and all relevant facts bearing upon the cash market value of said Company's operating property located in Washington on March 1, 1935, and March 1, 1936,

Now, THEREFORE, It is ordered that the operating real property and the operating personal property of the said Northern Pacific Railway Company, located within the State of Washington, be and the same is hereby re-assessed for taxation purposes for each of the years 1935 and 1936, and that the assessed (100% primary) valuation of such real and personal property for each of said years be and the same is hereby fixed at the following amounts:

Year for which Re-assessed	Amount of 100% Primary Valuation		
	Real Property	Personal Property	Total
1935	\$79,320,000	\$10,680,000	\$90,000,000
1936	78,349,000	10,151,000	88,500,000

And It Is Further Ordered, That, as provided by Chapter 106, Laws of 1931, the said re-assessments for each of said years be spread upon the assessment rolls of this Commission, that the same be apportioned to each county of this state through which said railroad operated on the dates of original assessment in the same manner and in the same proportions as the original assess-

ments were apportioned, and equalized in the same manner and at the same ratio of assessed to true value as the original assessments were equalized by the state board of equalization; and that such equalized values be certified to the respective county assessors of the said counties.

In Witness Whereof, The Tax Commission of the State of Washington has caused these presents to be signed and the seal of said Commission hereto affixed this 2nd day of September, 1937.

TAX COMMISSION OF THE STATE OF WASHINGTON

By H. H. HENNEFORD, *Chairman*,

By T. S. HEDGES, *Member*,

By T. M. JENNER, *Member*.

(COMMISSION'S SEAL)

Attest:

GEO. L. HARRIGAN, *Secretary*.

Schedule No. 1

NORTHERN PACIFIC RAILWAY COMPANY
Annual Net Railway Operating Income, 1920 to 1935, Inclusive

<i>Year</i>	<i>Net Railway Operating Income</i>
1920.....	\$7,949,458
1921.....	10,843,826
1922.....	19,450,514
1923.....	17,100,557
1924.....	19,861,078
1925.....	22,227,319
1926.....	24,666,531
1927.....	23,126,803
1928.....	25,454,369
1929.....	21,643,663
1930.....	14,535,935
1931.....	7,173,151
1932.....	1,990,389
1933.....	5,975,973
1934.....	7,915,209
1935.....	7,726,342

Schedule No. 2

NORTHERN PACIFIC RAILWAY COMPANY
Shares of Stock Sold by Months, 1927 to 1935, Inclusive

STOCK AND CERTIFICATES

	1927	1928	1929	1930
January	150,800	41,600	79,200	41,800
February	186,305	32,500	73,100	88,900
March	81,500	109,200	219,400	50,300
April	79,500	86,400	40,300	24,800
May	71,900	105,200	72,400	60,100
June	103,300	87,800	69,400	62,800
July	92,100	29,900	208,300	17,400
August	138,600	37,200	109,600	13,800
September	62,800	60,200	63,700	12,900
October	75,200	67,500	78,400	52,200
November	101,900	308,500	121,100	36,200
December	129,400	130,100	68,800	71,150
Totals.....	1,273,305	1,096,100	1,203,700	532,350

STOCK AND CERTIFICATES

	1931	1932	1933	1934	1935
January	46,800	161,800	59,332	65,900	63,700
February	25,500	68,300	62,700	147,100	57,600
March	23,800	55,100	81,400	99,400	79,600
April	23,800	82,700	190,600	110,800	71,600
May	69,600	49,400	300,700	99,800	118,600
June	50,400	37,800	274,900	70,300	139,800
July	23,300	83,700	256,500	69,000	70,300
August	19,450	339,800	60,600	54,000	125,700
September	80,300	369,400	93,400	35,100	118,600
October	141,800	164,000	54,300	58,400	112,800
November	64,900	70,200	49,100	61,500	490,700
December	108,370	89,260	83,750	90,000	200,800
Totals.....	678,020	1,571,460	1,567,282	961,300	1,649,800

Schedule No. 3

NORTHERN PACIFIC RAILWAY COMPANY

Average Market Value of Stocks and Funded Debt for Years Beginning March 1st^①

	Year Ending Feb. 28, 1931	Year Ending Feb. 29, 1932	Year Ending Feb. 28, 1933	Year Ending Feb. 28, 1934	Year Ending Feb. 28, 1935	Year Ending Feb. 29, 1936
N. P. Ry. Co. Common Stock.....	\$171,404,167	\$79,321,250	\$34,965,417	\$56,794,583	\$55,567,500	\$49,186,666
N. P. Ry. Co. Prior Lien 1997.....	100,179,533	93,868,489	85,471,430	89,214,851	105,268,427	110,632,881
N. P. Ry. Co. General Lien 2047.....	36,967,165	34,599,223	31,556,346	31,783,227	37,795,580	40,163,653
② N. P. Ry. Co. St. Paul-Duluth Division 1996.....	355,000	278,500	253,000	253,000	253,000	253,000
N. P. Ry. Co. Refunding and Improvements—Series "A".....	19,756,250	16,420,833	12,054,167	13,771,875	16,866,667	17,229,167
N. P. Ry. Co. Refunding and Improvement—Series "B".....	120,764,073	105,409,274	75,733,520	86,136,325	102,780,812	105,771,963
N. P. Ry. Co. Refunding and Improvement—Series "C".....	9,122,911	7,706,521	5,575,817	6,468,483	7,891,445	8,124,413
N. P. Ry. Co. Refunding and Improvement—Series "D".....	10,469,792	8,867,188	6,429,167	7,388,542	9,040,104	9,306,771
② N. P. Ry. Co. Equipment Trust 1920.....	300,000	.....	.....	.....	.....	.....
② N. P. Ry. Co. Equipment Trust 1922.....	1,087,500	637,500	187,500	.....	.....	.....
② N. P. Ry. Co. Equipment Trust 41½s.....	2,467,500	2,232,500	1,997,500	1,762,500	1,527,500	1,184,476
② N. P. Ry. Co. Equipment Trust 4s.....	.....	.....	.....	.....	551,833	1,168,667
② N. P. Ry. Co. Equipment Trust 2½s.....	.....	.....	.....	.....	.....	50,000
St. P. and Duluth R. R. First Mortgage 5s due 1931.....	1,005,964	412,500	.....	.....	.....	.....
St. P. and Duluth R. R. First Consolidated 4s due 1968....	923,958	882,761	755,521	792,031	980,625	1,031,042
② Washington and Columbia River Ry. First 4s due 1935....	140,000	140,000	140,000	140,000	140,000	46,667
Washington Central Ry. First 4s due 1948.....	687,508	613,422	474,033	421,404	652,379	724,978
Totals.....	\$475,631,321	\$351,389,961	\$255,593,418	\$294,926,821	\$339,315,872	\$344,874,344

① Average of the monthly high and low as shown by Commercial & Financial Chronicle.

② Not quoted—par value used.

NORTHERN PACIFIC RAILWAY COMPANY

Average Market Value of Stocks and Funded Debt for Calendar Years^①

	Year Ending Dec. 31, 1930	Year Ending Dec. 31, 1931	Year Ending Dec. 31, 1932	Year Ending Dec. 31, 1933	Year Ending Dec. 31, 1934	Year Ending Dec. 31, 1935
N. P. Ry. Co. Common Stock	\$184,824,583	\$94,524,166	\$36,954,583	\$50,633,333	\$60,088,334	\$45,001,667
N. P. Ry. Co. Prior Lien 1997	99,318,519	96,766,820	84,436,184	88,344,652	102,755,049	110,101,418
N. P. Ry. Co. General Lien due 2047	36,671,677	35,611,774	31,488,282	31,199,008	36,859,695	39,905,576
② N. P. Ry. Co. St. Paul Duluth Division Gold 4s due 1996 ..	355,000	295,500	253,000	253,000	253,000	253,000
N. P. Ry. Co. Refunding and Improvement Gold 4½s Series "A" due 2047	19,692,708	17,473,953	12,333,333	13,091,667	16,637,500	16,852,083
N. P. Ry. Co. Refunding and Improvement Gold 6s Series "B" due 2047	120,908,914	110,303,729	78,498,404	82,035,909	101,610,841	104,072,195
N. P. Ry. Co. Refunding and Improvement Gold 5s Series "C" due 2047	9,135,602	8,102,657	5,760,288	6,157,104	7,779,947	7,967,590
N. P. Ry. Co. Refunding and Improvement Gold 5s Series "D" due 2047	10,481,250	9,360,938	6,615,625	7,028,125	8,905,729	9,136,562
② N. P. Ry. Co. Equipment Trust of 1920 due 1930	375,000	.....	.....	.....	.....	.....
② N. P. Ry. Co. Equipment Trust of 1922 due 1932	1,162,500	712,500	262,500	.....	.....	.....
② N. P. Ry. Co. Equipment Trust Gold 4½s due serially to 1940	2,506,667	2,271,667	2,036,667	1,801,667	1,566,667	1,223,643
② N. P. Ry. Co. Equipment Trust Gold 4s of 1934 due serially to 1949 .....	.....	.....	.....	.....	355,833	1,176,000
St. Paul and Duluth First Mortgage 5s due 1931	1,005,313	580,208	.....	.....	.....	.....
St. Paul and Duluth First Consolidated Gold 4s due 1968 ..	923,229	893,438	764,115	782,344	951,667	1,028,750
② Washington & Columbia River Ry. First Gold 4s due 1935 ..	140,000	140,000	140,000	140,000	140,000	70,000
Washington Central Ry. First Gold 4s due 1948	686,210	636,081	496,861	406,482	617,387	719,302
Totals	\$488,187,172	\$377,673,436	\$260,039,942	\$281,873,291	\$338,521,649	\$337,497,786

① Average of the monthly high and low as shown by Commercial and Financial Chronicle.

② Not quoted—Par value used.

Schedule No. 5

NORTHERN PACIFIC RAILWAY COMPANY

Sum of Average Market Value of Stock and Par Value of Funded Debt for Calendar Years

Par value	1930	1931	1932	1933	1934	1935
Stock	\$248,000,000	\$248,000,000	\$248,000,000	\$248,000,000	\$248,000,000	\$248,000,000
Funded debt	314,137,000	310,142,500	309,457,500	309,222,500	310,207,500	309,788,500
Total.....	\$562,137,000	\$558,142,500	\$557,457,500	\$557,222,500	\$558,207,500	\$557,788,500
Average market value						
Stock	\$184,824,583	\$94,524,166	\$36,954,583	\$50,633,333	\$60,088,333	\$45,001,667
Funded debt	303,362,589	283,149,270	223,085,259	231,239,959	278,433,315	292,496,119
Total.....	\$488,187,172	\$377,673,436	\$260,039,842	\$281,873,292	\$338,521,648	\$337,497,786
Average market value of stock.....	\$184,824,583	\$94,524,166	\$36,954,583	\$50,633,333	\$60,088,333	\$45,001,667
Par value of funded debt.....	314,137,000	310,142,500	309,457,500	309,222,500	310,207,500	309,788,500
Total.....	\$498,961,583	\$404,666,666	\$346,412,083	\$359,855,833	\$370,295,833	\$354,790,167

Schedule No. 6

NORTHERN PACIFIC RAILWAY COMPANY

Ratio of Average Annual Net Corporate Income After Fixed Charges for 1930-1934 and 1930-1935 Periods to Market Value of Outstanding Common Stock as Evidenced by Market Quotations for Last Year of Said Respective Periods.

Years	Net Corporate Income After Fixed Charges	Average Market Value of Stock	Ratio Per Cent
1930	\$17,228,716	\$184,824,583	
1931	8,902,336	94,524,166	
1932	(r)1,991,406	36,954,583	
1933	303,979	50,633,333	
1934	899,406	60,088,333	
1935	431,782	45,001,667	
Totals 1930 to 1934, inclusive (5 years).....	25,343,031	427,024,998	
Totals 1930 to 1935, inclusive (6 years).....	25,774,813	472,026,665	
Average for 1930 to 1934, inclusive (5 years).....	5,068,606	85,405,000	
Average for 1930 to 1935, inclusive (6 years).....	4,295,802	78,671,111	
Ratio of average net corporate income after fixed charges for 1930 to 1934 (5 years) to average market value of stock 1934.....			8.435258%
Ratio of average net corporate income after fixed charges for 1930 to 1935 (6 years) to average market value of stock 1935.....			9.545873%

NOTE: "r" indicates red figure.

Schedule No. 7

UNION PACIFIC RAILROAD COMPANY (ONLY)

Ratio of Average Annual Net Corporate Income After Fixed Charges and Preferred Stock Dividends for 1930-1934 and 1930-1935 Periods to Market Value of Outstanding Common Stock as Evidenced by Market Quotations for Last Year of Said Respective Periods.

Year	Net Corporate Income After Fixed Charges	Preferred Stock Dividends	Net Available for Common Stock, Etc.	Average Market Value of Common Stock
1930	\$38,718,716	\$3,981,724	\$34,736,992	\$474,059,066
1931	31,842,312	3,981,724	27,860,588	331,359,932
1932	26,177,262	3,981,724	22,195,538	138,996,710
1933	25,182,284	3,981,724	21,200,560	218,580,593
1934	19,751,360	3,981,724	15,769,636	253,559,919
1935	①18,661,062	3,981,724	14,679,338	219,921,749
Total for 1930 to 1934, inclusive, 5 years.....			121,763,314	1,416,556,220
Total for 1930 to 1935, inclusive, 6 years.....			136,442,652	1,636,477,969
Average for 1930 to 1934, inclusive, 5 years.....			24,352,663	283,311,244
Average for 1930 to 1935, inclusive, 6 years.....			22,740,442	272,746,328
Ratio of average net corporate income after fixed charges for 1930 to 1934 (5 years) to average market value of stock 1934.....				9.604303%
Ratio of average net corporate income after fixed charges for 1930 to 1935 (6 years) to average market value of stock 1935.....				10.340242%

① Determined as follows: \$81,188,149 reported by Moody less \$62,527,087 representing distribution of securities received from Oregon Short Line.

Schedule No. 8

NORTHERN PACIFIC RAILWAY COMPANY

N. P.'s Interest in Average Annual Net Corporate Income After Fixed Charges of
C. B. & Q. R. R. Co. (Company Only) Capitalized at 8% for 1930 to 1934, Inclusive,
and 1930 to 1935, Inclusive

<i>Years</i>	<i>Net Corporate Income After Fixed Charges</i>
1930	\$21,979,860
1931	13,319,735
1932	1,502,816
1933	5,598,024
1934	4,454,760
1935	1,842,844
Total for 1930 to 1934, inclusive (5 years)	46,855,195
Total for 1930 to 1935, inclusive (6 years)	48,698,039
Average for 1930 to 1934, inclusive (5 years)	9,371,039
Average for 1930 to 1935, inclusive (6 years)	8,116,340
Average for 1930 to 1934, inclusive, capitalized at 8% (5 years)	\$117,137,988
N. P.'s interest, 48.59%	56,917,348
Average for 1930 to 1935, inclusive, capitalized at 8% (6 years)	101,454,250
N. P.'s interest, 48.59%	49,296,620

NORTHERN PACIFIC RAILWAY COMPANY

N. P.'s Interest in Net Corporate Income After Fixed Charges of C. B. & Q. R. R. System^① for 1932 to 1934, inclusive, and 1933 to 1935, inclusive

Years	NET CORPORATE INCOME AFTER FIXED CHARGES			NORTHERN PACIFIC RAILWAY CO.'S INTEREST			
	Chicago, Burlington & Quincy R. R. Co.	Colorado & Southern Ry. Co.	Fort Worth & Denver City Ry. Co.	Chicago, Burlington & Quincy R. R. Co.	Colorado & Southern Ry. Co. (Col. 2×34.35%)	Fort Worth & Denver City Ry. Co. (Col. 3×34.24%)	Total (Cols. 4+5+6)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
1932	\$1,502,816	\$1,269,824(r)	\$649,931	\$730,218	\$434,915(r)	\$222,536	\$517,839
1933	5,598,024	943,390(r)	412,812	2,720,080	323,111(r)	141,347	2,538,316
1934	4,454,760	854,138(r)	53,798(r)	2,164,568	292,542(r)	18,420(r)	1,853,606
1935	1,842,844	1,213,972	38,412(r)	895,438	415,785	13,152(r)	1,298,071
Total for 1932 to 1934, inclusive	11,555,600	3,067,352(r)	1,008,945	5,614,866	1,050,568(r)	345,463	4,909,761
Total for 1933 to 1935, inclusive	11,895,628	583,556(r)	320,602	5,780,086	199,868(r)	109,775	5,689,993
Average for 1932 to 1934, inclusive	3,851,867	1,022,451(r)	336,315	1,871,622	350,189(r)	115,154	1,636,587
Average for 1933 to 1935, inclusive	3,965,209	194,519(r)	106,868	1,926,695	66,623(r)	36,592	1,896,664

Basic data obtained from I. C. C. "Annual Reports on the Statistics of Railways in the United States."

^①Includes C. B. & Q. R. R. Co., and Burlington's interest in Colorado & Southern Ry. Co. and Fort Worth & Denver City Ry. Co.

(r) red.

Colo. & So. Ry. Co.'s Interest (%)	C. B. & Q. Ry. Co.'s Interest (%)	N. P. Ry. Co.'s Interest (%)
(C. & S.'s Interest in Colo. & So. Ry. Co. Equals 98.98%)	(C. B. & Q.'s Interest in Colo. & So. Ry. Co. Equals 70.48%)	(N. P.'s Interest in C. B. & Q. Ry. Co. Equals 48.59%)
(1)	(2)	(3)
Fort Worth & Denver City Railway Co.	70.47	34.24
Colorado & Southern Railway Co.	70.48	34.25
Chicago, Burlington & Quincy Railroad Co.	.....	48.59

Schedule No. 10

NORTHERN PACIFIC RAILWAY COMPANY

N. P.'s Interest in Average Annual Net Corporate Income of S. P. & S. System^① (Before Deducting Interest on Funded Debt and Amortization of Interest on Funded Debt) for Various Periods Capitalized at 6%.

Years	Net Corporate Income Before Deducting Interest on Funded Debt and Amortization of Interest on Funded Debt (Adjusted for Wash- ington Tax Litigation)	
1930	\$448,544	
1931	296,597	
1932	(r) 832,387	
1933	992,002	
1934	1,197,601	
1935	1,572,867	
Total 1933 and 1934	\$2,189,603	
Total 1933 to 1935, inclusive	\$3,762,470	
Total 1930 to 1934, inclusive	\$2,102,357	
Total 1930 to 1935, inclusive	\$3,675,224	
Average for 1933 and 1934	\$1,094,801	
Average for 1933 to 1935, inclusive	\$1,254,157	
Average for 1930 to 1934, inclusive	\$420,471	
Average for 1930 to 1935, inclusive	\$612,537	
Average for 1933 and 1934, capitalized at 6%		\$18,246,683
N. P.'s interest, 50%		\$9,123,342
Average for 1933 to 1935, inclusive, capitalized at 6%		\$20,902,617
N. P.'s interest, 50%		\$10,451,308
Average for 1930 to 1934, inclusive, capitalized at 6%		\$7,007,850
N. P.'s interest, 50%		\$3,503,925
Average for 1930 to 1935, inclusive, capitalized at 6%		\$10,208,950
N. P.'s interest, 50%		\$5,104,475

① Includes Oregon Trunk Railway, Oregon Electric Railway, United Railways.

Basic data obtained from N. P. Ry. Co.'s Annual Report to stockholders. Adjustments in railway tax accruals from statement from S. P. & S. Ry. Co.

(r) Red.

Schedule No. 11

NORTHERN PACIFIC RAILWAY COMPANY

Comparison of Dividends Paid With Annual Net Corporate Income of the Northwestern Improvement Company, 1925 to 1935, Inclusive

Year	Dividends Paid N. P. by N. W. I. Co. ^①			N. W. I. Co. Annual Net Corporate Income ^②
	Regular Dividend	Special Dividend	Total Dividend	
1925	\$992,000		\$992,000	\$1,775,721
1926	992,000		992,000	2,020,922
1927	992,000		992,000	1,963,482
1928	992,000		992,000	2,067,532
1929	992,000	\$3,500,000	4,492,000	2,403,576
1930	992,000		992,000	2,075,800
1931	992,000	5,000,000	5,992,000	1,603,157
1932	992,000	5,600,000	6,592,000	979,413
1933	992,000	4,000,000	4,992,000	566,937
1934	992,000	2,500,000	3,492,000	802,096
1935	992,000	2,800,000	3,792,000	598,020
Total years 1925-1934, inclusive	\$9,920,000	\$20,600,000	\$30,520,000	\$16,258,636
Total years 1925-1935, inclusive	\$10,912,000	\$23,400,000	\$34,312,000	\$16,856,656

① Compiled from p. 213, N. P. Annual Report to Washington Department of Public Service.

② Data obtained from letter from N. P., dated July 27, 1937.

Schedule No. 12

NORTHERN PACIFIC RAILWAY COMPANY

Securities Owned by Northwestern Improvement Co.① as of End of Each Year,
1930 to 1935, Inclusive

Years	Securities Owned
1930	\$21,767,004.45
1931	16,845,690.77
1932	13,568,567.89
1933	7,304,574.92
1934	7,327,348.39
1935	4,470,843.49

①Figures obtained from Northern Pacific Railway Company.

Schedule No. 13

NORTHERN PACIFIC RAILWAY COMPANY

Net Proceeds of Land Department Credited to Property and Profit and Loss Accounts,
1930 to 1935, Inclusive

Compiled from Data in Annual Reports to Stockholders

Year (1)	Net Sales (2)	Interest Collected (3)	Total Col. 1+Col. 2 (4)	Expenses and Taxes (5)	Net Income Col. 4—Col. 5 (6)
1930	\$1,103,172	\$141,733	\$1,244,905	\$1,191,585	\$53,320
1931	760,710	71,418	832,128	1,100,919	268,791(r)
1932	188,075	15,141	203,216	1,011,972	808,756(r)
1933	50,690	42,696	93,386	873,616	780,230(r)
1934	185,864	61,601	247,465	884,967	637,502(r)
1935	475,417	66,398	541,815	827,341	285,526(r)
Total 1930-1934	2,288,511	332,589	2,621,100	5,063,059	2,441,959(r)
Total 1931-1935	1,660,756	257,254	1,918,010	4,698,815	2,780,805(r)
Average 1930-1934	457,702	66,518	524,220	1,012,612	488,392(r)
Average 1931-1935	332,151	51,451	383,602	939,763	556,161(r)

(r) Red.

Schedule No. 14

NORTHERN PACIFIC RAILWAY COMPANY

Estimated Net Proceeds from Unsold Land Grant Lands as of June 30, 1917

Following quoted from I. C. C.'s opinion on Final Valuation.

"The approximate acreage of land grant lands received, the approximate acreage disposed of, the estimated acreage unsold, and the estimated net proceeds that may be realized from the sale of the unsold acreage, all as reported by the Northern Pacific, are as follows:

Symbol Indicating Grantee	Approximate Acreage Received	Approximate Acreage Disposed of	Estimated Acreage Unsold	Estimated Net Proceeds From Unsold Acreage
A	40,000,000	34,200,000	5,800,000	\$11,600,000
B	695,000			
C	778,000			
D	65,000	1,596,000	36,619	100,000
E	92,000			
F	246,000	219,000	26,955	161,732
G	266,000	265,000	1,231	6,157
Total	42,142,000	36,280,000	5,864,805	\$11,867,889

Symbol Used Above

Name of Company Receiving Grant

A	Northern Pacific Railroad Company
B and C	The Lake Superior and Mississippi Railroad Company
D	The Stillwater and St Paul Railroad Company
E	Taylor's Falls and Lake Superior Railroad Company
F	Saint Paul & Northern Pacific Railway Company
G	Little Falls and Dakota Railroad Company

(Volume 25, I. C. C. Valuation Reports, p. 453.)

"The Northern Pacific estimates that it will receive about \$19,000,000 from the sale of the 5,800,000 acres, and that the expenses in connection therewith will approximate \$7,400,000, leaving net proceeds of about \$11,600,000."

(Volume 25, I. C. C. Valuation Reports, p. 580.)

Schedule No. 15

NORTHERN PACIFIC RAILWAY COMPANY

Land Grant Acreage Account for the Years Ending December 31, 1917, to 1935, Inclusive

Year	Balance Undisposed of at Beginning of Year Col. No. 1 (Acres)	Received from Contracts Cancelled During Year Col. No. 2 (Acres)	Exchanges and Adjust- ments Col. No. 3 (Acres)	Total to be Accounted for Col. 1 + Col. 2 + Col. 3 = Col. No. 4 (Acres)	Sold During Year Col. No. 5 (Acres)	Balance Undisposed of at End of Year Col. 4 Less Col. 5 = Col. No. 6 (Acres)
1917...	5,864,007.41	22,111.59	67,655.87	5,953,774.87	1,016,747.04	4,937,027.83
1918...	4,937,027.83	21,007.60	24,196.24	4,982,231.67	183,322.19	4,798,909.48
1919...	4,798,909.48	66,029.28	26,218.32(r)	4,838,720.44	195,474.87	4,643,245.57
1920...	4,643,245.57	129,397.29	327.73(r)	4,772,315.13	126,428.39	4,645,886.74
1921...	4,645,886.74	149,001.06	4,803.93	4,799,691.73	72,707.50	4,726,984.23
1922...	4,726,984.23	344,280.09	33.87(r)	5,071,230.45	158,438.57	4,912,791.88
1923...	4,912,791.88	508,724.73	5,229.56	5,426,746.17	89,197.47	5,337,548.70
1924...	5,337,548.70	225,305.44	114.80	5,562,968.94	127,175.52	5,435,793.42
1925...	5,435,793.42	232,704.71	268.31	5,668,766.44	114,333.07	5,554,433.37
1926...	5,554,433.37	161,063.99	111.06	5,715,608.42	133,905.28	5,581,703.14
1927...	5,581,703.14	138,426.87	158.19(r)	5,719,971.82	134,097.62	5,585,874.20
1928...	5,585,874.20	51,341.70	693,331.38	6,330,547.28	233,891.28	6,096,656.00
1929...	6,096,656.00	49,016.98	14,246.90(r)	6,131,426.08	249,492.31	5,881,933.77
1930...	5,881,933.77	76,899.88	3,497.13(r)	5,955,336.52	112,277.44	5,843,059.08
1931...	5,843,059.08	54,758.83	535.61	5,898,353.52	56,255.89	5,842,097.63
1932...	5,842,097.63	167,419.53	76.86(r)	6,009,440.30	78,888.17	5,930,552.13
1933...	5,930,552.13	87,666.46	49,171.86	6,067,390.45	23,472.30	6,043,918.15
1934...	6,043,918.15	85,645.25	2,195.08	6,131,758.48	108,367.55	6,023,390.93
1935...	6,023,390.93	115,624.61	1,776.37(r)	6,137,239.17	107,724.82	6,029,514.35

Data obtained from the Annual Reports of the Northern Pacific Railway Company to its stockholders.

(r) red.

Schedule No. 15A

NORTHERN PACIFIC RAILWAY COMPANY

Present Value to N. P. of Land Grant Lands Based on Its Estimate of Net Proceeds Therefrom

(a)	Balance undisposed of Jan. 1, 1917 (See Schedule 15).....	5,864,007 Acres
(b)	N. P.'s 1917 estimate of net proceeds (See Sch. 14).....	\$11,867,889
(c)	Estimate of net proceeds per acre (b ÷ a).....	\$2.02385314
(d)	Acreage undisposed of Dec. 31, 1934 (See Sch. 15).....	6,023,390 Acres
(e)	Estimated net proceeds (d × c).....	\$12,190,456
(f)	Acreage undisposed of Dec. 31, 1935 (See Sch. 15).....	6,029,514 Acres
(g)	Estimated net proceeds (f × c).....	\$12,202,850
(h)	Present value of \$12,190,456 due at the rate of \$487,618 per annum for 25 years at 6% interest.....	\$6,233,395
(i)	Present value of \$12,202,850 due at the rate of \$488,114 per annum for 25 years at 6% interest.....	\$6,239,735

Schedule No. 16

NORTHERN PACIFIC RAILWAY COMPANY

Average Annual Income From Lease of Road (Acct. No. 509)① for Periods 1932 to 1934, Inclusive, and 1933 to 1935, Inclusive, Capitalized at 6%

Year	Total as Reported	Eastern Railway & Lumber Co.	Total as Adjusted Col. 1 — Col. 2
	(1)	(2)	(3)
1932	\$357,411	\$475	\$356,936
1933	351,367	583	350,784
1934	350,878	292	350,586
1935	351,585	1,862	349,723
Total for 1932 to 1934, inclusive.....	\$1,059,656	\$1,350	\$1,058,306
Total for 1933 to 1935, inclusive.....	1,053,830	2,737	1,051,093
Average for 1932 to 1934, inclusive...	\$353,219	\$450	\$352,769
Average for 1933 to 1935, inclusive...	351,276	912	350,364
Average for 1932 to 1934, inclusive, capitalized at 6%.....			\$5,879,483
Average for 1933 to 1935, inclusive, capitalized at 6%.....			5,839,400

① Basic data obtained from Annual Reports to Washington Department of Public Service as follows:

Column (1), page 313, line 7, Col. (e).

Column (2), page 313, line 5, Col. (e).

Schedule No. 17

NORTHERN PACIFIC RAILWAY COMPANY

Average Annual Gross Receipts^① From Accounts 510, 511 and 519, Capitalized at 8%, for 1932 to 1934, Inclusive, and 1933 to 1935, Inclusive

Account 510—Cols. 1-2-3							Account 511		Account 519 Misch. Income (5)	Total (Cols. 3 + 4 + 5) (6)
Net Misch. Rent Income (1)	Misch. Rent Expenses (2)	Gross Misch. Rent Income (Col. 1 + Col. 2) (3)	Misch. Non-Operating Physical Property Income (4)							
Year										
1932	\$474,742	\$40,100	\$514,842	\$202,538			\$44,835	\$762,215		
1933	448,475	32,724	481,199	169,596			38,337	689,132		
1934	418,666	44,872	463,538	179,929			14,441	657,908		
1935	416,772	53,554	470,326	195,218			9,737	675,281		
Total for 1932 to 1934, inclusive.....	1,341,883	117,696	1,459,579	552,063			97,613	2,109,255		
Total for 1933 to 1935, inclusive.....	1,283,913	131,150	1,415,063	544,743			62,515	2,022,321		
Average for 1932 to 1934, inclusive.....	447,294	39,232	486,526	184,021			32,538	703,085		
Average for 1933 to 1935, inclusive.....	427,971	43,717	471,688	181,581			20,838	674,107		
Average for 1932 to 1934, inclusive, capitalized at 8%.....										\$3,788,562
Average for 1933 to 1935, inclusive, capitalized at 8%.....										8,426,337

^① Without deductions for taxes, repairs, etc.

NORTHERN PACIFIC RAILWAY COMPANY

Average Annual Adjusted Income from Accounts 513 and 514 for 1932 to 1934, Inclusive, and 1933 to 1935, Inclusive, Capitalized at 6%

Line	1932	1933	1934	1935	Total 1932 to 1934	Total 1933 to 1935	Average 1932 to 1934	Average 1933 to 1935	Capitalized at 6% Average 1932 to 1933 to 1934 1935
a Account 513—Dividend									
Income	\$9,119,425	\$7,501,694	\$6,001,693	\$5,471,513	\$22,622,812	\$18,974,900	\$7,540,937	\$6,324,967	
b Dividend on N. W. I.									
Stock—Total	6,592,000	4,992,000	3,492,000	3,792,000	15,076,000	12,276,000	5,025,333	4,092,000	
c Dividend on S. P. & S. Ry.									
Stock									
d Dividend on C. B. & Q. Ry.									
Co. Stock	2,490,537	2,490,537	2,490,537	1,660,358	7,471,611	6,641,432	2,490,537	2,213,811	
e Total deductions for stock									
dividends (b + c + d) ..	9,082,537	7,482,537	5,982,537	5,452,358	22,547,611	18,917,432	7,515,870	6,305,811	
f Adjusted dividend income									
(a — e)	36,888	19,157	19,156	19,155	75,201	57,468	25,067	19,156	
g Account 514—Income from									
Funded Securities.....	273,566	295,735	560,135	779,235	1,129,436	1,635,105	376,478	545,035	
h Interest on S. P. & S. Ry.									
Co. Bonds	72,419	225,000	500,000	725,000	797,419	1,450,000	265,806	483,533	
i Adjusted income from									
funded securities (g — h)	201,147	70,735	60,135	54,235	332,017	185,105	110,672	61,702	
j Total adjusted dividend									
income and adjusted in-									
come from funded se-									
curities (f + i).....	\$238,035	\$89,892	\$79,291	\$73,390	\$407,218	\$242,573	\$135,739	\$80,858	\$2,262,317 \$1,347,633

Schedule No. 19

NORTHERN PACIFIC RAILWAY COMPANY

Average Amount of Cash on Hand During 1934 and 1935

Cash on hand—	1934	1935
Beginning of year.....	\$7,041,549	\$6,078,680
End of year.....	6,078,680	10,537,312
Average for year.....	6,560,115	8,307,996

Schedule No. 20

NORTHERN PACIFIC RAILWAY COMPANY

Cost of Reproduction Less Depreciation Per Mile of Road as of June 30, 1917, Excluding Equipment and Other Items Not Allocated

TOTAL OWNED AND USED

	Road and Equipment	Land	Grand Total	Miles of Road (1st Main Track)	Per Mile of Road (1st Main Track)
Washington	\$96,271,479	\$29,659,505	\$125,930,984	1,819.773	\$69,201
Oregon	2,925,255	412,744	3,337,999	50.328	66,325
Idaho	16,032,107	790,371	16,822,478	321.586	52,311
Montana	69,956,872	5,111,050	75,067,922	1,416.386	53,000
North Dakota	38,563,885	5,115,756	43,679,641	1,529.942	28,550
Minnesota	46,724,802	20,736,899	67,461,701	1,007.615	66,952
Wisconsin	5,609,638	960,179	6,569,817	131.181	50,082
Total system.....	\$276,084,038	\$62,786,504	\$338,870,542	6,276.811	\$53,988

Basic data obtained from I. C. C. Valuation Reports, Volume 25, Valuation Docket, No. 959.

Schedule No. 21

NORTHERN PACIFIC RAILWAY COMPANY

Comparison of System Mileage of Main Line and Branch Lines Owned in Washington and Outside of Washington as of December 31, 1934, and December 31, 1935①

As of December 31, 1934

	System Miles	Washington Miles	Per Cent	Outside Miles	Washington Per Cent
Main line	2,809.36	670.36	23.86	2,139.00	76.14
Branch lines	3,674.35	1,148.34	31.25	2,526.01	68.75
Main and branch lines.....	6,483.71	1,818.70	28.05	4,665.01	71.95
Ratio of branch lines to total—System.....					56.67%
Ratio of branch lines to total—Washington.....					63.14%
Ratio of branch lines to total—Outside Washington.....					54.15%

As of December 31, 1935

Main line	2,810.50	664.47	23.64	2,146.03	76.36
Branch line	3,655.43	1,148.29	31.41	2,507.14	68.59
Main and branch lines.....	6,465.93	1,812.76	28.04	4,653.17	71.96
Ratio of branch lines to total—System.....					56.53%
Ratio of branch lines to total—Washington.....					63.34%
Ratio of branch lines to total—Outside Washington.....					53.88%

①Figures obtained from page 36, Annual Report to Washington Tax Commission.

Schedule No. 22

NORTHERN PACIFIC RAILWAY COMPANY

Cost of Switching Service in 10 Washington Terminals as Shown by Northern Pacific
Railway Company's Evidence in N. P. Business Tax Case①

Week June 3 to 9th, 1934.

Station	Expenses for Week② (1)	Cost Per Engine Hour② (2)	Net Engine Hours Passenger② (3)	Passenger Switching Expense③ (4)	Freight Switching Expenses (Col. 1— Col. 4)
Spokane	\$6,134.52	\$10.87	52.67	\$572.52	\$5,562.00
Pasco	3,223.84	12.37	33.83	418.48	2,805.36
Yakima	2,883.41	11.05	16.72	184.76	2,698.65
Everett	884.46	9.86	.....	.....	884.46
Seattle	9,582.77	12.67	.....	.....	9,582.77
Auburn	3,955.93	12.14	4.75	57.66	3,898.27
Tacoma	7,035.09	11.93	38.17	455.37	6,579.72
Centralia	1,058.18	13.13	3.50	45.96	1,012.22
Aberdeen	452.53	8.53	1.42	12.11	440.42
Hoquiam	537.74	11.07	2.50	27.68	510.06
	<u>\$35,748.47</u>			<u>\$1,774.54</u>	<u>\$33,973.93</u>

One day, 1/7 of \$33,973.93 = \$4,853.42.

One year \$4,853.42 × 365 = \$1,771,498.30.

Total operating expenses apportionable to freight service for 1934, \$8,496,275.03.

Ratio of freight switching expenses to total freight operating expenses.

\$1,771,489.30 ÷ \$8,496,275.03 = 20.85%.

① N. P. Exhibits 11 and 12, and supporting testimony in *State v. Northern Pacific Railway Company*, No. 15415, Thurston county superior court.

② Northern Pacific Railway Company Exhibit 11 in said cause.

③ Northern Pacific Railway Company Exhibit 12 in said cause.

Schedule No. 23

NORTHERN PACIFIC RAILWAY COMPANY

Cost of Reproduction, Less Depreciation of Tunnels and Subways and Bridges, Trestles
and Culverts as Found by I. C. C. for June 30, 1917

System	Cost of Reproduction Less Depreciation		
	Tunnels and Subways	Bridges, Trestles and Culverts	Totals
Wholly owned and used.....	\$5,999,971	\$23,755,188	\$29,755,159
Jointly owned and used (N. P. portion).....	898,220	1,360,974	2,259,194
Wholly owned but not used (leased).....	105,936	205,431	311,367
Total owned	<u>\$7,004,127</u>	<u>\$25,321,593</u>	<u>\$32,325,720</u>
Hartford & Eastern Ry. Co.....	\$105,936	\$83,750	\$189,686
Total owned less Hartford & Eastern Ry. Co...	<u>\$6,898,191</u>	<u>\$25,237,843</u>	<u>\$32,136,034</u>
Washington			
Wholly owned and used.....	\$3,276,166	\$9,763,576	\$13,039,742
Jointly owned and used (N. P. portion).....	898,220	99,111	997,331
Wholly owned but not used.....	105,936	83,750	189,686
Total owned	<u>\$4,280,322</u>	<u>\$9,946,437</u>	<u>\$14,226,759</u>
Hartford & Eastern Ry. Co.....	\$105,936	\$83,750	\$189,686
Total owned less Hartford & Eastern Ry. Co...	<u>\$4,174,386</u>	<u>\$9,862,687</u>	<u>\$14,037,073</u>
Per cent in Washington.....	60.514213	39.078962	43.680166

Schedule No. 24

NORTHERN PACIFIC RAILWAY COMPANY

Statement Showing Taxes, Rentals and Maintenance and Operating Expenses Paid N. P.
Annually by G. N. and O.-W. for Joint Use of Seattle-Vancouver, Washington, Line

	1932	1933	1934	1935
Taxes paid N. P. by				
G. N.	\$114,232	\$108,498	\$103,567	\$88,752 ①
O.-W.	127,736	109,764	97,176	85,521 ①
Total taxes	\$241,968	\$218,262	\$200,743	\$174,273
Rentals paid N. P. by				
G. N.	\$547,775	\$548,804	\$547,961	\$546,176
O.-W.	542,650	547,494	544,608	545,240
Total rentals	\$1,090,425	\$1,096,298	\$1,092,569	\$1,091,416
Total taxes and rentals.....	\$1,332,393	\$1,314,560	\$1,293,312	\$1,265,689
Maintenance and operating expenses paid N. P. by				
G. N.	\$203,397	\$204,732	\$217,476	\$217,639
O.-W.	181,495	188,808	193,811	199,473
Total maintenance and oper- ing expenses	\$384,892	\$393,540	\$411,287	\$417,112

① Taxes for last half of 1935 not billed or paid and have been estimated as being the same as the first half.

Schedule No. 25

NORTHERN PACIFIC RAILWAY COMPANY

Relative Net Earnings of Washington Operating Property as Reflected by Relative Car
and Locomotive Miles, Traffic Units, Gross Revenues and Track Mileage

Line No.	ITEMS	1934	Average 1930-1934 Inclusive	Average 1931-1935 Inclusive
1	I—Operating income			
2	Railway operating revenues.....	\$13,368,674	\$15,644,330	\$13,908,609
3	Railway operating expenses.....	10,244,915	11,829,432	10,869,741
4	Net revenue from railway operations.	3,123,759	3,814,898	3,038,868
5	Railway tax accruals.....	1,833,862	2,477,357	2,194,632
6	Uncollectible railway revenues.....			
7	Railway operating income.....	1,289,897	1,337,541	844,236
	Rentals			
8	Freight cars—Credit balance.....	144,640	146,964	131,433
9	Locomotives—Credit balance	49,653	47,254	41,828
10	Passenger, train cars—Credit balance....	33,736(r)	11,315(r)	20,437(r)
11	Floating equipment—Credit balance.....			
12	Work equipment—Credit balance.....	36,078	31,915	27,449
13	Joint facility rents—Credit balance.....	1,302,225	1,333,143	1,328,287
14	Sub-total	1,498,860	1,547,961	1,508,560
15	Net railway operating income.....	2,788,757	2,885,502	2,352,796
	Capitalized at 6%.....		48,091,700	39,213,267
16	Net revenue from ry. operations system..	\$9,856,962	\$10,446,075	\$8,814,887
17	Per cent—Washington to system			
	Line 4 ÷ Line 16.....	31.690890	36.519917	34.474271
18	Net railway operating income system....	\$7,915,209	\$7,395,241	\$6,081,867
19	Per cent—Washington to system			
	Line 15 ÷ Line 18.....	35.232891	39.018363	38.685423

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Schedule No. 26

NORTHERN PACIFIC RAILWAY COMPANY

Relative Operating Expenses of Washington Operating Properties as Reflected by Relative Car and Locomotive Miles, Traffic Units and Track Mileage for 1934

	DESCRIPTION	1934
1. Maintenance of Way and Structures		
(a) Total dollars—system.....		\$5,494,005
(b) Track miles owned and operated—system.....		9,775.32
(c) Track miles owned and operated—state.....		2,933.99
(d) Ratio of (c) to (b) in per cent.....		30.014260%
(e) Ratio (d) applied to (a)—dollars allocated to state.....		\$1,648,985
2. Maintenance of Equipment		
(a) Total dollars—system.....		\$10,686,932
(b) Total car miles—system.....		369,103,144
Total locomotive miles—system.....		17,963,136
Total (b)—system.....		387,066,280
(c) Total car miles—state.....		77,475,576
Total locomotive miles—state.....		5,411,932
Total (c)—state.....		82,887,508
(d) Ratio of (c) to (b) in per cent.....		21.414293%
(e) Ratio (d) applied to (a)—dollars allocated to state.....		\$2,238,531
3. Traffic Transportation and Miscellaneous Operations		
(a) Total dollars—system—traffic.....		\$1,731,882
Transportation—rail line.....		19,386,074
Transportation—water line.....	
Miscellaneous operations.....		740,606
Total (a).....		\$21,858,562
(b) Total ton miles revenue freight—system.....		3,939,247,066
Total revenue passenger miles—system.....		201,141,324
Total (b)—system.....		4,140,388,390
(c) Total ton miles revenue freight—state.....		949,319,845
Total revenue passenger miles—state.....		45,784,389
Total (c)—state.....		995,104,234
(d) Ratio of (c) to (b) in per cent.....		24.034079%
(e) Ratio (d) applied to (a)—dollars allocated to state.....		\$5,253,504
4. General Expense and Transportation for Investment		
(a) Total dollars—system—general expense.....		\$3,538,951
Transportation for invest. cr.....		27,637(r)
Total (a).....		\$3,511,314
(b) Track miles owned and operated—system.....		9,775.32
(c) Track miles owned and operated—state.....		2,933.99
(d) Ratio of (c) to (b) in per cent.....		30.014260%
(e) Ratio (d) applied to (a)—dollars allocated to state.....		\$1,053,895
5. Total Railway Operating Expenses		
Total dollars—system.....		\$41,550,813
Total dollars allocated to State of Washington, as above.....		\$10,244,915

Schedule No. 27

NORTHERN PACIFIC RAILWAY COMPANY

Cost of Reproduction New Less Depreciation

As of December 31,	System	Washington	Per Cent State of System
1934.....	\$474,065,831	\$156,901,317	33.10
1935.....	472,164,615	156,313,054	33.11

I. C. C. cost of Reproduction new at 1914 prices less depreciation plus net additions and betterments (depreciated by accounts to same per cent condition as found by I. C. C.) since valuation date: June 30, 1917.

Schedule No. 27A

NORTHERN PACIFIC RAILWAY COMPANY

Account 716—Unappropriated Materials and Supplies on Hand December 31, 1934,
and December 31, 1935

December 31, 1934 December 31, 1935

Account 716—Materials and Supplies.....	\$6,054,057	\$6,088,305
Portion in Washington①.....	1,829,937	1,824,997

Figures obtained from page 200, line 37, column (c) of Annual Report to Washington
Department of Public Service.

① Ratio of mileage of line owned and operated in Washington to System.

December 31, 1934.....	30.226631%
December 31, 1935.....	29.975457%

Schedule No. 27B

NORTHERN PACIFIC RAILWAY COMPANY

Reproduction Cost New at Current Prices Less Depreciation

	Land 100% Value			Land Depreciated 33⅓%		
	December 31, 1934	December 31, 1935	December 31, 1934	December 31, 1935	December 31, 1934	December 31, 1935
	Washington	System	Washington	System	Washington	System
Road accounts—total.....	\$388,052,552	\$389,160,007	\$128,633,317	\$388,052,552	\$128,298,908	\$389,160,007
Equipment accounts—total	106,098,684	110,958,369	26,560,257	106,098,684	25,688,504	110,958,369
Land	62,248,965	62,246,391	28,424,196	41,499,310	18,948,893	41,497,594
Grand total	\$556,400,201	\$562,364,767	\$183,617,770	\$535,650,546	\$172,936,305	\$541,615,970
						\$174,143,038

Schedule No. 28

NORTHERN PACIFIC RAILWAY COMPANY

Allocation of System Value—Percentage of System Net Railway Operating Income (Excluding Taxes) Earned in Washington With Interstate Freight Revenue Apportioned on a Relative Cost Basis.

Line No.	Washington Operating Revenues	1934	Average 5 Years 1930-1934	Average 5 Years 1931-1935
1.	Freight—intrastate	\$4,882,700	\$6,538,813	\$5,561,797
2.	Freight—interstate apportioned on cost basis	7,654,473	7,893,655	7,360,105
3.	All other operating revenues.....	2,153,417	2,647,086	2,332,455
4.	Total operating revenues.....	14,690,590	17,079,554	15,254,357
5.	Operating expenses	11,675,083	13,742,973	12,600,065
6.	Net revenue from railway operations.....	3,015,507	3,336,581	2,654,292
7.	Uncollectible railway revenues, debit.....	4,810	5,513	5,250
8.	Equipment rents, credit.....	196,635	214,817	180,273
9.	Joint facility rents, credit.....	1,302,225	1,316,741	1,316,991
10.	Total uncollectible railway revenues, equipment rents and joint facility rents (credit)	1,494,050	1,526,045	1,492,014
11.	Net railway operating income (excluding taxes)	4,509,557	4,862,626	4,146,306
<i>System—</i>				
12.	Net railway operating income.....	8,375,634	7,610,216	6,156,213
13.	Railway tax accruals.....	4,852,167	6,219,097	5,920,785
14.	Net railway operating income (excluding taxes)	13,227,801	13,829,313	12,076,998
15.	Washington's per cent of system net railway operating income (excluding taxes).....	34.091509%	35.161732%	34.332257%

Line 1—Annual Report Washington Department of Public Service, page 700, line 1, column (d).

Line 2—Line 12, Schedule No. 29.

Line 3—Line 31, Schedule No. 37.

Line 4—Line 1 plus line 2 plus line 3.

Line 5—Annual Report Washington Department of Public Service, page 707, line 247, column (b).

Line 6—Line 4 minus line 5.

Line 7—Line 5, Schedule No. 34.

Line 8—Line 18, Schedule No. 31.

Line 9—Line 21, Schedule No. 31.

Line 10—Line 7 plus line 8 plus line 9.

Line 11—Line 6 minus line 10.

Line 12—Statement from N. P. Ry. Co.

Line 13—Line 8, Schedule No. 35.

Line 14—Line 12 plus line 13.

Line 15—Line 11 divided by line 14.

NORTHERN PACIFIC RAILWAY COMPANY
Division of Interstate Revenue on Basis of Cost for 1934

Line No.	1934			Sources
	System (4)	Washington (5)	All Other States (6) 4—5	
1. Freight operating expenses—debit.....	\$29,746,890	\$8,496,275	\$21,250,615	System—Line 3, Schedule No. 30. State—Line 12, Schedule No. 30.
2. Hire of equipment—Freight portion—credit...	901,155	207,029	694,126	System—Line 18, Schedule No. 31.
3. Joint facility rents—Freight portion—credit...	1,822,263	947,665	874,598	Washington—Line 18, Schedule No. 31. System—Line 26, Schedule No. 31.
4. Allowance for use of property based on ICC's cost of reproduction new less depreciation, plus additions and betterments since valua- tion date—Freight proportion—debit.....	9,469,994	3,185,989	6,284,005	Washington—Line 27, Schedule No. 31.
5. Total above costs (excludes taxes)—debit....	36,493,466	10,527,570	25,965,896	System—Line 36, Schedule No. 31. Washington—Line 37, Schedule No. 31.
6. Revenue net ton miles (thousands).....	3,939,247	949,320	2,989,927	Sum of Lines 1, 2, 3, and 4. System Line 94, Page 509, Ann. Rep. to W. D. P. S.
7. Cost per 1000 revenue net ton miles.....	.....	\$11.089590	\$8.684458	Washington Line 94, Page 905, Ann. Rep. to W. D. P. S.
8. Interstate revenue net ton miles (thousands).	3,330,382	614,699	2,715,683	Line 5 divided by Line 6.
9. Cost of handling interstate traffic.....	30,400,995	6,816,760	23,584,235	Statement from N. P. Ry. Co.
10. Per cent of total... ..	100.000000%	22.422819%	77.577181%	Line 7 times Line 8. Column "Washington" and Column "All Other States."
11. Interstate freight revenue—system.....	\$34,136,978	.....	.....	Line 9 divided by Column "System" Line 9.
12. Division of interstate revenue on basis of cost	.....	\$7,654,473	\$26,482,505	Statement by N. P. Ry. Co.
13. Intrastate freight revenue—Washington.....	.....	4,882,700	.....	Line 11 times Line 10.
14. Total freight revenue—Washington.....	.....	12,537,173	.....	Column (d), Line 1, Page 700, Ann. Rep. W. D. P. S. Line 12 plus Line 13.

Schedule No. 30

NORTHERN PACIFIC RAILWAY COMPANY

Percentage of Total Freight Operating Expenses, System and Washington, Apportioned to Freight and Passenger Service for 1934

		<i>Annual Reports to Washington Department of Public Service</i>	
<i>Entire System</i>			
1.	Expenses related solely to freight service.....\$20,112,740	Page 309, Line 247, Col. (c)	
2.	Common expenses apportioned to freight..... 9,634,150	Page 309, Line 247, Col. (e)	
3.	Total freight expenses—System..... 29,746,890	Line 1 + Line 2	
4.	Expenses related solely to passenger service.. 7,744,975	Page 309, Line 247, Col. (d)	
5.	Common expenses apportioned to passenger.. 4,058,949	Page 309, Line 247, Col. (f)	
6.	Total passenger expenses—System..... 11,803,924	Line 4 + Line 5	
7.	Grand total operating expenses—System..... 41,550,814	Page 309, Line 247, Col. (b)	
8.	Per cent freight to total (System).....71.591594%	Line 3 ÷ Line 7	
9.	Per cent passenger to total (System).....28.408406%	Line 6 ÷ Line 7	
<i>State of Washington</i>			
10.	Expenses related solely to freight service..... \$5,804,398	Page 707, Line 247, Col. (c)	
11.	Common expenses apportioned to freight..... 2,691,877	Page 707, Line 247, Col. (e)	
12.	Total freight expenses—Washington..... 8,496,275	Line 10 + Line 11	
13.	Expenses related solely to passenger service.. 2,071,858	Page 707, Line 247, Col. (d)	
14.	Common expenses allocated to passenger..... 1,106,950	Page 707, Line 247, Col. (f)	
15.	Total passenger expenses—Washington..... 3,178,808	Line 13 + Line 14	
16.	Grand total operating expenses—Washington. 11,675,083	Page 707, Line 247, Col. (b)	
17.	Per cent freight to total—Washington.....72.772718%	Line 12 ÷ Line 16	
18.	Per cent passenger to total—Washington.....27.227282%	Line 15 ÷ Line 16	

NORTHERN PACIFIC RAILWAY COMPANY

Total Hire of Equipment—Joint Facility Rents—Allowance for Use of Property for 1934

Line No.		System			Washington			
		Total	Freight Proportion	Passenger Proportion	Total	Freight Proportion	Passenger Proportion	
1.	Hire of equipment							
2.	Freight—train cars Cr.	\$709,352	\$709,352	.....	\$144,640	\$144,640	.....	System—Line 4, Schedule No. 33 Washington—Line 8, Schedule No. 33
3.	Passenger—train cars Dr.	135,210	.....	\$135,210	33,736	.....	\$33,736	System—Line 12, Schedule No. 33 Washington—Line 16, Schedule No. 33
4.	Locomotives—Total Cr.	164,806	.....	.....	49,653	.....	.....	System—Line 20, Schedule No. 33 Washington—Line 24, Schedule No. 33
5.	Percentage of freight proportion							
6.	System Cr.	.....	71.591594%	28.408406%	.....	72.772718%	27.227282%	Line 8, Schedule No. 30 Line 17, Schedule No. 30
7.	Washington	.....	.....	.....	.....	.....	.....
8.	Locomotives—freight and passenger proportion							
9.	System Cr.	.....	\$117,987	\$46,819	.....	.....	.....	Line 4 × Line 6 Line 4 × Line 7
10.	Washington Cr.	.....	.....	.....	\$36,078	.....	\$13,519	System—Line 28, Schedule No. 33 Washington—Line 32, Schedule No. 33
11.	Work equipment—Total Cr.	\$103,107	.....	.....	.....	.....	.....
12.	Percentage of freight and passenger proportion							
13.	System	.....	71.591594%	28.408406%	.....	72.772718%	27.227282%	Line 8, Schedule No. 30 Line 17, Schedule No. 30
14.	Washington	.....	.....	.....	.....	.....	.....
15.	Work equipment—freight and passenger proportion							
16.	System Cr.	.....	\$73,816	\$29,291	.....	.....	.....	Line 11 × Line 13 Line 11 × Line 14
17.	Washington Cr.	.....	.....	.....	\$196,635	\$26,255	\$9,823	
18.	Total hire of equipment Cr.	\$842,055	\$901,155(r)	\$59,100	.....	\$207,029(r)	\$10,394	
19.	Joint facility rents							
20.	System Cr.	\$2,545,359	.....	.....	\$1,302,225	.....	.....	Line 10, Schedule No. 36 Line 11, Schedule No. 36
21.	Washington Cr.	.....	.....	.....	.....	.....	.....
22.	Percentage of freight and passenger proportion							
23.	System	.....	71.591594%	28.408406%	.....	72.772718%	27.227282%	Line 8, Schedule No. 30 Line 17, Schedule No. 30
24.	Washington	.....	.....	.....	.....	.....	.....
25.	Joint facility rents—freight and passenger proportion							
26.	System Cr.	.....	\$1,822,263	\$723,006	.....	\$947,665	.....	Line 20 × Line 23 Line 21 × Line 24
27.	Washington Cr.	.....	.....	.....	.....	.....	.....
28.	Allowance for use of property less depreciation plus additions and betterments							
29.	I. C. C. cost of reproduction since valuation date	\$474,065,831	.....	.....	\$156,901,317	.....	.....	System—Line 11, Schedule No. 32 Washington—Line 14, Schedule No. 32

NORTHERN PACIFIC RAILWAY COMPANY

Total Hire of Equipment—Joint Facility Rents—Allowance for Use of Property for 1934—Continued

Line No.		System		Washington	
		Total	Freight Proportion	Passenger Proportion	
30.	Rate of return (per cent).....	2.790288%	.....	.....	Line 5, Schedule No. 35
31.	Allowance for use excluding taxes—Total.....	\$13,227,802	.....	.....	Line 29 × Line 30
32.	Percentage of freight and passenger proportion.....	.....	.....	.....
33.	System.....	71.591594%	28.408406%	.....	Line 8, Schedule No. 30
34.	Washington.....	.....	72.772718%	27.227282%	Line 17, Schedule No. 30
35.	Allowance for use excluding taxes—freight and passenger proportion.....	.....	.....	.....
36.	System.....	\$9,469,994	\$3,757,808	Line 31 × Line 33
37.	Washington.....	\$3,185,989	\$1,192,010	Line 31 × Line 34

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Schedule No. 32

NORTHERN PACIFIC RAILWAY COMPANY

Cost of Reproduction New and Less Depreciation—System and State of Washington
for 1934

Line No.	1934	
	System	Washington
1. <i>Cost of Reproduction New</i>		
2. ①System, as computed by Tax Commission.....	\$572,015,390	.....
3. ①Proprietary companies .....		.....
4. Total system	572,015,390	.....
5. ①Washington, as computed by Tax Commission.....		\$182,610,450
6. ①Proprietary companies .....		.....
7. Total State of Washington.....		182,610,450
8. <i>Cost of Reproduction Less Depreciation</i>		
9. ①System, as computed by Tax Commission.....	474,065,831	.....
10. Proprietary companies .....		.....
11. Total system	474,065,831	.....
12. ①Washington, as computed by Tax Commission.....		156,901,317
13. ①Proprietary companies .....		.....
14. Total State of Washington.....		156,901,317

①Tax Commission work sheets.

NORTHERN PACIFIC RAILWAY COMPANY

Apportionment of Hire of Equipment to Washington

Line No.		1934	
<i>Freight Train Cars</i>			
1.	Hire of freight cars—cr. bal.....	\$709,352	Line 15, page 301, Annual Report to WDPS
2.	Hire of freight cars—dr. bal.....		Line 35, page 301, Annual Report to WDPS
3.	Hire of freight cars—dr. bal.....		Line 2 minus Line 3
4.	Net—credit	\$709,352	Schedule No. 38, Line No. 14
5.	Freight car miles—system.....	326,341,093	Schedule No. 38, Line No. 14
6.	Freight car miles—Washington.....	66,542,464	Line 6 divided by Line 5
7.	Washington's percentage	20.390464%	Line 4 times Line 7
8.	Hire of freight cars applicable to Washington—credit.....	\$144,640	
<i>Passenger Train Cars</i>			
9.	Rent of passenger—train cars.....	\$70,879	Line 17, page 301, Annual Report to WDPS
10.	Rent for passenger—train cars.....	\$206,089	Line 37, page 301, Annual Report to WDPS
11.	Rent for passenger—train cars.....		Line 10 minus Line 11
12.	Net	dr. \$135,210	Schedule No. 38, Line No. 25
13.	Passenger car miles—system.....	40,136,382	Schedule No. 38, Line No. 25
14.	Passenger car miles—Washington.....	10,014,355	Line 14, divided by Line 13
15.	Washington's percentage	24.950816%	Line 12 times Line 15
16.	Hire of passenger cars applicable to Washington.....	dr. \$33,736	
<i>Locomotive Miles</i>			
17.	Rent from locomotives.....	\$217,122	Line 16, page 301, Annual Report to WDPS
18.	Rent for locomotives.....	\$52,316	Line 36, page 301, Annual Report to WDPS
19.	Rent for locomotives.....		Line 18 minus Line 19
20.	Net—credit	\$164,806	Schedule No. 38, Line No. 4
21.	Locomotive miles—system	17,963,136	Schedule No. 38, Line No. 4
22.	Locomotive miles—Washington	5,411,932	Line 22 divided by Line 21
23.	Washington's percentage	30.127991%	Line 20 times Line 23
24.	Locomotive rentals applicable to Washington—credit.....	\$49,653	
<i>Work Equipment</i>			
25.	Rent from work equipment.....	\$106,618	Line 19, page 301, Annual Report to WDPS
26.	Rent for work equipment.....	\$3,511	Line 39, page 301, Annual Report to WDPS
27.	Rent for work equipment.....		Line 26 minus Line 27
28.	Net—credit	\$103,107	Schedule No. 38, Line No. 31
29.	Work car miles—system.....	2,625,669	Schedule No. 38, Line No. 31
30.	Work car miles—Washington.....	918,757	Line 30 divided by Line 29
31.	Washington's percentage	34.991349%	Line 28 times Line 31
32.	Work equipment rentals applicable to Washington—credit.....	\$36,078	

Schedule No. 34

NORTHERN PACIFIC RAILWAY COMPANY

Apportionment of Uncollectible Railway Revenues on Basis of Freight Expenses for 1934

Line No.	1934
1. Uncollectible railway revenue—system.....	\$16,575
2. Freight operating revenue—system.....	43,205,825
3. Freight operating revenue—Washington, with interstate freight revenue divided on basis of cost.....	12,537,173
4. Percentage of system freight revenue in Washington.....	29.017321%
5. Assignment of uncollectible railway revenue to Washington.....	\$4,810
Line No. 1. Annual Report to W. D. P. S., page 301, Line 6, Col (b)	
Line No. 2. Annual Report to W. D. P. S., page 302, Line 1, Col. (b)	
Line No. 3. Line 14, Schedule No. 29	
Line No. 4. Line 3 divided by Line 2	
Line No. 5. Line 1 times Line 4	

Schedule No. 35

NORTHERN PACIFIC RAILWAY COMPANY

Rate of Return Earned on System for 1934 Before Payment of Taxes

Line No.	1934
1. Net railway operating income—system.....	\$8,375,634
2. Railway tax accruals—system.....	4,852,167
3. Net railway operating income, excluding taxes—system.....	13,227,801
4. I. C. C. cost of reproduction less depreciation plus depreciated additions and betterments since valuation date.....	474,065,831
5. Rate of return not allowing for taxes on basis of I. C. C. cost of reproduction less depreciation plus depreciated additions and betterments since valuation date	2.790288
Adjustments in railway tax accruals account Washington Tax Litigation and Railroad Retirement Act 1934	
6. Railway tax accruals (system) as reported.....	\$5,312,592
7. Net adjustments due to litigation and retirement act.....	460,425
8. Net railway tax accruals—system.....	4,852,167
Line No. 1. Statement from N. P.	
Line No. 3. Line 1, plus Line 2	
Line No. 4. Line 11, Schedule No. 32	
Line No. 5. Line 3 divided by Line 4	
Line No. 6. Annual Report to W. D. P. S., page 301, Line 5, Col. (b)	
Line No. 7. Statement from N. P.	
Line No. 8. Line 6 minus Line 7	

Schedule No. 36

NORTHERN PACIFIC RAILWAY COMPANY

Joint Facility Rents for 1934

Line
No.

1934

System Washington

1. Joint Facility Rents Received		
2. System	\$3,296,415	.....
3. State of Washington.....		\$1,535,630
4. Joint Facility Rents Paid		
5. System	751,056	.....
6. Washington		233,406
7. Net joint facility rents—system cr.....	2,545,359	.....
8. Net joint facility rents—Washington cr.....		1,302,224
9. Adjustments due to Washington tax litigation.....		.....
10. Net joint facility rents—system cr.....	2,545,359	.....
11. Net joint facility rents—Washington cr.....		1,302,224
Line No. 2. Annual Report to T. C., pages 24 and 25, Line 20		
Line No. 3. Annual Report to T. C., page 25, Line 20		
Line No. 5. Annual Report to T. C., pages 24 and 25, Line 40		
Line No. 6. Annual Report to T. C., page 25, Line 40		
Line No. 7. Line 2 minus Line 5		
Line No. 8. Line 3 minus Line 6		
Line No. 9. Statement from N. P. Ry. Co.		
Line No. 10. Line 7 plus Line 9 and N. P. Statement		
Line No. 11. Line 8 plus Line 9 and N. P. Statement		

Schedule No. 37

NORTHERN PACIFIC RAILWAY COMPANY

Operating Revenues, Excluding Freight Revenues—State of Washington, for 1934

	1934	From Page 700 Annual Report to WDPS—Col. "f"
Passenger	\$740,315	Line 2
Excess baggage	4,269	Line 3
Sleeping car	100	Line 4
Parlor and chair car.....	3,977	Line 5
Mail	315,365	Line 6
Express	160,598	Line 7
Other passenger—Train	17,494	Line 8
Milk	12,937	Line 9
Switching	438,620	Line 10
Special service train.....	11,020	Line 11
Other freight—Train	120,955	Line 12
Water transfers—Freight		Line 13
Water transfers—Passenger		Line 14
Water transfers—Vehicles and live stock.....		Line 15
Water transfers—Other		Line 16
Total water line transportation revenue.....		Line 26
Dining and buffet.....	54,779	Line 27
Hotel and restaurant.....	72,501	Line 28
Station, train, and boat privileges.....	2,976	Line 29
Parcel room	4,092	Line 30
Storage—Freight	1,728	Line 31
Storage—Baggage	2,120	Line 32
Demurrage	37,574	Line 33
Telephone and telegraph.....	29,655	Line 34
Grain elevator		Line 35
Stockyard		Line 36
Power		Line 37
Rents of buildings and other property.....	7,456	Line 38
Miscellaneous	90,996	Line 39
Total joint facility operating revenue.....	23,890	Line 43
Total other operating revenue.....	2,153,417	Sum of above lines
Freight	11,215,257	Line 1
Total railway operating revenue.....	\$13,368,674	Line 44

Schedule No. 38

NORTHERN PACIFIC RAILWAY COMPANY

Data for Allocation of Equipment to Washington for 1934

(Figures Obtained From Annual Reports to Washington Department of Public Service)

Line No.	1934	
	System pp. 508-9	Washington pp. 904-5
1. <i>Locomotive Miles</i>		
2. Line 41—Total transportation service.....	17,702,719	5,266,748
3. Line 42—Work service	260,417	145,184
4. Total locomotive miles.....	17,963,136	5,411,932
5. <i>Freight Train Car Miles</i>		
6. Line 53—Sum of loaded and empty.....	312,298,362	64,221,108
7. Line 54—Freight—Train caboose	7,138,944	2,045,409
8. Line 62—Mixed train—Freight—Loaded	3,999,500	127,439
9. Line 63—Mixed train—Freight—Empty	2,756,622	99,404
10. Line 64—Mixed train—Caboose	110,949	48,774
11. Line 71—Special train—Freight—Loaded	29,858	315
12. Line 72—Special train—Freight—Empty	5,325	.....
13. Line 73—Special train—Freight—Caboose.....	1,533	15
14. Total freight—Train car miles.....	326,341,093	66,542,464
15. <i>Passenger—Train Car Miles</i>		
16. Line 61—Passenger train—Total	38,914,179	9,999,013
17. Line 66—Mixed train—Passenger	713,069	9,724
18. Line 67—Mixed train—Sleeping, parlor and observation... ..	440	.....
19. Line 68—Mixed train—Dining .....	.....	.....
20. Line 69—Mixed train—Other passenger train.....	494,731	136
21. Line 75—Special train—Passenger	9,906	1,694
22. Line 76—Special train—Sleeping, parlor and observation... ..	2,292	2,292
23. Line 77—Special train—Dining	378	378
24. Line 78—Special train—Other passenger train.....	1,387	1,118
25. Total passenger—Train car miles.....	40,136,382	10,014,355
26. <i>Work Car Miles</i>		
27. Line 55—Freight train—Exclusive work equipment.....	1,945,035	582,310
28. Line 65—Mixed train—Exclusive work equipment.....	92,961	6,154
29. Line 74—Special train—Exclusive work equipment.....	.....	.....
30. Line 81—Work service	587,673	330,293
31. Total work car miles.....	2,625,669	918,757
32. <i>Car and Locomotive Miles</i>		
33. Line 41—Total transportation service.....	17,702,719	5,266,748
34. Line 42—Work service	260,417	145,184
35. Line 80—Total transportation service.....	368,515,471	77,145,283
36. Line 81—Work service	587,673	330,293
37. Total car and locomotive miles.....	387,066,280	82,887,508

Schedule No. 39

NORTHERN PACIFIC RAILWAY COMPANY

Par Value of Funded Debt by Issues Outstanding December 31, 1934, and 1935

	Par Value Outstanding	
	Dec. 31, 1934	Dec. 31, 1935
N. P. Ry. Co. prior lien mortgage—4%—1997.....	\$106,292,600	\$106,292,600
N. P. Ry. Co. general lien mortgage 3%—2047.....	54,451,500	54,451,500
N. P. Ry. Co. St. Paul-Duluth Div. Mortgage 4%—1996.....	253,000	253,000
N. P. Ry. Co. Ref. & Imp. Mortgage Series A 4½%—2047....	20,000,000	20,000,000
N. P. Ry. Co. Ref. & Imp. Mortgage Series B 6%—2047.....	105,959,600	105,959,600
N. P. Ry. Co. Ref. & Imp. Mortgage Series C 5%—2047.....	8,702,300	8,702,300
N. P. Ry. Co. Ref. & Imp. Mortgage Series D 5%—2047.....	10,000,000	10,000,000
St. Paul & Duluth Railroad Co. 1st Consol. Mortgage 4%—1968	1,000,000	1,000,000
Washington Central Ry. Co. 1st Mortgage 4%—1948.....	778,500	778,500
Wash. & Columbia River Ry. Co. 1st Mortgage 4%—1935.....	140,000	.....
Equipment Trust of 1925 4½%—1940.....	1,410,000	1,175,000
Equipment Trust of 1934 4½%—1949.....	1,220,000	1,176,000
Total funded debt.....	\$310,207,500	\$309,788,500

DEFENDANTS' EXHIBIT 53-A

is identical with Schedule No. 39 shown on page 116 of Defendants' Exhibit 53.

DEFENDANTS' EXHIBIT 54

is identical with the tabulation shown on page 79 of Defendants' Exhibit 53.

DEFENDANTS' EXHIBIT 54-A

purports to be a letter addressed to the Tax Commission of the State of Washington and signed "Northern Pacific Railway Company, By W. C. Smith, Its Assistant Tax Commissioner. By E. A. McCrary, Its Tax Commissioner," and dated at Seattle, Washington, April 25, 1932, and stamped: "Received Apr. 25, 1932, Tax Commission." In so far as material the letter reads as follows:

"To the Honorable The Tax Commission of the State of Washington.

"Gentlemen:

"As the basis for the assessment to be made for the year 1932 upon the operating property of the Northern Pacific Railway Company in the State of Washington, said company herewith presents to, and files with you:

* * * * *

"5. A statement (Schedule C) showing the deductions which we claim should be made from the market value of the total stock and bonds

in order to arrive at the total market value of the stock and bonds applicable to the operating property of said company; also the total market value arrived at in such manner.

* * * * *

“From an analysis of these several reports and schedules, it is apparent that the assessment of the operating property of the Northern Pacific Railway Company has been greatly in excess of the market value in previous years, and,

“We therefore respectfully ask that all of the facts and figures be taken into consideration by you in fixing the assessment for 1932, and that you accord to us this year a valuation of not to exceed \$50,000,000 for 1932.”

Among other schedules attached to said letter, is the following:

“Northern Pacific Railway Company
“1932 Assessment.

“Schedule C.

“Valuation by Stock & Bond Method

“Average Market Value of stock and bonds outstanding as of December 31, 1931, on basis of average quotations during year 1931

“Stock\$ 94,550,000

“Bonds 280,626,672

Total\$375,176,672

“Deductions a/c non-operating property.

* * * * *

“2. Northwestern Improve-
ment Co. 1931 regular
dividend \$992,000 capita-
lized @7%\$14,171,428

“3. S. P. & S. Ry. Co. bonds
—1931 income \$500,000
capitalized @7%..... 7,142,857”

* * * * *

[2260]

DEFENDANTS' EXHIBIT 54-D,

Page 1:

Northern Pacific Railway Company

PROPERTIES PLEDGED UNDER VARIOUS
OUTSTANDING MORTGAGES (EXCLU-
SIVE OF EQUIPMENT TRUST CERTIFI-
CATES).

1. Northern Pacific Railway Company—Prior
Lien mortgage Par value outstanding December 31,
1935\$106 292 600

Secured by a first direct lien on 4,836.07 main
track miles of railroad and a first collateral lien
on 533.16 miles of track through ownership of stock
and bonds of

	Miles
The Manitoba Railway Company.....	354.65
The Duluth Union Depot and Transfer Company.....	.25
Minnesota and International Railway Company.....	178.26
Total.....	533.16

Further secured by pledge of the following stocks:

	Par value
St. Paul Union Depot Company stock.....	\$ 43,750
Duluth Union Depot & Transfer Co. stock.....	150,000
Minnesota Transfer Railway Company stock.....	7,000
Northern Pacific Express Company stock.....	343,000

Also secured by granted lands of which 6,007,-207.31 acres remain unsold as of December 31, 1934, and all equipment, right of way lands, buildings, shops and appurtenances, etc., mortgaged under the indenture dated November 10, 1896.

2. Northern Pacific Railway Company—General Lien mortgage Par value outstanding December 31, 1935\$54 451 500
Secured by a mortgage on all the property as indicated above for Prior Lien mortgage and subject to the lien of that indenture.

3. Northern Pacific Railway Company Refunding and Improvement mortgage bonds

Series "A"—July 1, 1914

" "B"—January 1, 1921

" "C"—January 1, 1922

" "D"—January 1, 1923

Par value outstanding December 31,

1935\$144 661 900

Secured by a first direct lien on 1,028.10 main track miles, a second lien on 290.71 main track miles, subject to the liens of the Washington and Columbia River Railway 1st mortgage 161.57 miles and the Washington Central Railway Company 1st mortgage 129.14 miles, a third lien on 4,836.07 main track miles covered by the Prior Lien mortgage and the General Lien mortgage, also a third lien on 225.56 miles covered by the St. Paul and Duluth Railroad 1st consolidated mortgage and the Northern Pacific Railway, St. Paul-Duluth Division, mortgage, a third collateral lien on 533.16 miles covered by the Prior Lien mortgage and General Lien mortgage.

[2261]

DEFENDANTS' EXHIBIT 54-D

page 2:

Also secured by various leaseholds and trackage rights and the Railway Company's terminals in Minneapolis, St. Paul, Duluth, Superior, Portland, Seattle, Tacoma, etc., also in the greater part of the company's equipment which is not covered by the equipment trust indentures.

Further secured by deposit of the following stocks:

	<u>Par value</u>
Lake Superior Term'l & Tfr. Ry. Co., stock.....\$	165,200.00
St. Paul Union Depot Co., stock (a).....	103,600.00
Spokane, Portland & Seattle Ry. Co., stock.....	20,000,000.00
Duluth Union Depot & Transfer Ry. Co., stock (b)	300,000.00
Minnesota Transfer Ry. Co., stock (c).....	7,000.00
Minnesota & International Ry. Co., stock (c).....	350,000.00
Chicago, Burlington & Quincy R. R. Co., stock.....	82,933,700.00
(a) \$43,750 subject to prior pledge under the Prior and General Lien mortgages.	
(b) \$125,000 subject to prior pledge under the St. Paul and Duluth Railroad 1st Consolidated mortgage, \$25,000 subject to prior pledge under the Northern Pacific Railway—St. Paul-Duluth Division mortgage and \$150,000 subject to prior pledges under the Prior and General Lien mortgages.	
(c) Subject to prior pledges under the Prior and General Lien mortgages.	

[2262]

DEFENDANTS' EXHIBIT 54-E

for identification

is a document certified by the Clerk of the Supreme Court of the State of Washington to be a full, true and correct copy of a portion of the Transcript of Record on Appeal in the case of State of Washington, Appellant, vs. Northern Pacific Railway Company, Respondent, Appeal No. 25684 in said Supreme Court, omissions being indicated by rows of stars. The portion of said Transcript so certified contains what purports to be copies of portions of

(Defendants' Exhibit 54-E—Continued)

the Complaint, Answer and Reply in the case of State of Washington, Plaintiff, vs. Northern Pacific Railway Company, Defendant, being cause No. 15415 in the Superior Court of the State of Washington for Thurston County, the Complaint purporting to have been filed in said Court on February 28, 1934, the Answer on March 17, 1934, and the Reply on May 5, 1934.

The material portions of the Complaint, Answer and Reply included in said Transcript are as follows:

COMPLAINT:

“Comes now the plaintiff, and for complaint alleges:

“(1) That at all times herein mentioned defendant was and now is a corporation organized and existing under the laws of Wisconsin, and was and is engaged in and continuing in the business within the state of Washington of owning and operating steam railways as a common carrier for hire, and was and now is engaged in and continuing in the business in the state of Washington of a light and power, a telephone company, a telegraph company, and a public service company, all as defined in Session Laws of Washington for 1933, chapter 191, section 2, subdivision (2), sub-division (e), sub-subdivisions III, V, VI and XII.

“(2) That defendant, as such common carrier, is now, and for many years has been, subject to the Interstate Commerce Act, and as such, has for a

(Defendants' Exhibit 54-E—Continued)

long number of years, and at all the times herein [2263] mentioned, kept its accounts and made its reports to the Interstate Commerce Commission, the Tax Commission of the State of Washington, and the Department of Public Works of the State of Washington, by the uniform system of accounts prescribed by the Interstate Commerce Commission for steam railway corporations. That in and by such method of accounting, defendant's receipts are now, and for many years last past have been, classified both by number and name according to the source of such receipts. That defendant's receipts from its said operations are now, and for many years last past have been, classified in its income account as Account No. 501, denominated "railway operating revenues," and that said Account No. 501 is now, and for many years last past has been, sub-classified as to the particular character of such revenues according to the following account numbers and designations:

* * * * *

"(3) That all of the railway operating revenues included in said accounts set forth in paragraph (2) hereof (except said account numbers 106 and 125, "Mail", said account number 138, "Telephone and Telegraph", and said account number 141, "Power") which were received by, or accrued to, defendant during the months of August, 1933, to December, 1933, inclusive, as a result of business transacted wholly within the state of Washington,

(Defendants' Exhibit 54-E—Continued)

constituted the gross income of defendant in the state of Washington as defined by Section one, of said chapter 191, and that defendant is taxable under the provisions of said chapter 191 in an amount equal to one and one-half per cent. of such railway operating revenues. That the exact amount of such gross income for said months, or any of them, is unknown to plaintiff, but that plaintiff is informed and believes, and therefore states the fact to be, that the amount thereof for said respective months and the several amounts of taxes payable by defendant by reason thereof under said chapter 191, are not less than as shown by the following table: [2264]

Column 1 Month:	Column 2 Gross Income:	Column 3 Amount of Tax:
August, 1933	\$479,343.55	\$7,190.15
September, 1933	499,681.96	7,495.23
October, 1933	478,715.41	7,180.73
November, 1933	506,751.16	7,601.27
December, 1933	550,000.00	8,250.00
Total .....	.....	\$37,717.38

“That amounts not less than the several respective sums set forth in said Column 3 became due and owing to plaintiff from defendant on the 15th day of the month next following the month named in said Column one set opposite said respective amounts; that no part of said taxes have been paid, and that the same are now due and owing to plaintiff from defendant, together with interest thereon

(Defendants' Exhibit 54-E—Continued)

at the rate of one per cent. per month from the several dates when the same became due, together with a penalty of ten per cent. on the amount of said unpaid taxes.

“(4) That all of the railway operating revenues included in accounts numbers 138 and 141 which were received by, or accrued to, defendant during the months of August, 1933, to December, 1933, inclusive, as a result of business transacted wholly within the state of Washington, constituted gross income of defendant in the state of Washington as defined by Section one, said chapter 191, and that defendant is taxable under the provisions of said chapter 191, in an amount equal to three per cent. of such railway operating revenues. That the exact amount of such gross income for said months, or any of them, is unknown to plaintiff, but that plaintiff is informed and believes, and therefore states the fact to be that the amount thereof is a substantial amount and greatly exceeds \$200.00.

* * * * * [2265]

“Wherefore, plaintiff prays judgment against defendant (a) for \$37,717.38, and such other and further amounts of taxes as the court shall find upon the trial of this action to have become due and owing from defendant to plaintiff under the provisions of said chapter 191, by reason of gross income received by said defendant between August 1st, 1933, and December 31st, 1933, inclusive, (b) for ten per cent. of the amount of such unpaid taxes as

(Defendants' Exhibit 54-E—Continued)

and for a penalty for the non-payment thereof when due, (c) for interest at one (1) per cent. per month on the several amounts of such taxes from the dates when the same became due and payable, (d) for its costs of suit herein, and (e) for such other and further relief as to the court may seem meet and equitable in the premises."

* * * * *

ANSWER:

"The defendant, Northern Pacific Railway Company, makes answer to plaintiff's complaint as follows:—

I.

"Admits paragraph (1), except denies that it is engaged in the business of a light and power, telephone or telegraph company.

II.

"Admits Paragraph (2).

III.

"Denies all of the allegations of Paragraphs (3) and (4).

IV.

"Admits Paragraphs (5) and (6).

* * * * *

VI.

"(a) Defendant's railroad was constructed and equipped in this [2266] state long prior to the enactment of said Chapter 191, Laws of 1933, at a cost of more than one hundred million dollars, to pro-

(Defendants' Exhibit 54-E—Continued)

vide adequate facilities for both interstate and local business. Long after said railroad was constructed by said Northern Pacific Railroad Company and conveyed to defendant, as aforesaid, there was enacted Chapter 81, Laws of 1905, followed by Chapter 117, Laws of 1911, known as the Public Service Commission Law, and thereby, and by Art. XII, Secs. 13, 14 and 15 of the Constitution of Washington, there is imposed on defendant an obligation to devote its *railroad* to the service of the people of this state in the transportation of passengers and property in local commerce, from which it cannot withdraw while continuing to carry on its interstate commerce. Defendant's railroad system comprises 10,521.30 miles of line of which 3,285.47 miles are in the State of Washington. Said railroad is taxed in this state by virtue of Chapter 130, Laws Special Session of 1925, on its fair market value, considered as a going concern, and including all of its property used in the operation, maintenance and equipment of said railroad. Ad valorem taxes so levied for the year 1933, payable in the year 1934, are approximately two million dollars. Defendant is also required by Chapter 107, Laws of 1929, to pay to the Department of Public Works one-tenth of one per cent of its gross revenue as an inspection and supervision fee. Said inspection fee, payable for the year 1933, will be approximately \$7,000.00. The tax of $1\frac{1}{2}\%$ of gross income imposed by said Chapter 191, Laws of 1933, is not a property tax, nor in lieu of

(Defendants' Exhibit 54-E—Continued)

a property tax, nor an inspection or supervision tax, but is an excise tax imposed solely for the privilege of doing local business.

“(b) Defendant, as an interstate carrier, subject to the acts of Congress regulating interstate commerce, keeps its accounts as required by the Interstate Commerce Commission. [2267]

“(c) Results of operation of defendant's railway system and of the portion thereof within the State of Washington for years prior to the year 1932 are not representative of results of operation for 1932, 1933 and at the present time. System net railway operating income for the years 1932 and 1933 is as follows:—

1932	\$1,990,389.21
1933	5,975,972.63

“(d) Defendant's gross railway operating revenues and expenses within the State of Washington for both local and interstate business, ad valorem taxes in Washington and inspection fee paid to the Department of Public Works of Washington for the years 1932 and 1933 are as follows:—

1932—Revenues	\$12,845,325.62
Expenses	12,336,818.64
Ad valorem taxes	2,464,967.00
Inspection fee	6,481.32
1933—Revenues	12,064,954.32
Expenses	11,145,042.19
Ad valorem taxes	2,002,000.00
Inspection fee	5,700.53

(Defendants' Exhibit 54-E—Continued)

“(e) Defendant's gross railway operating revenues from local and interstate business in the State of Washington for the years 1932 and 1933, separately stated, are as follows:—

1932—Local	\$6,613,958.99
Interstate	6,231,366.63
1933—Local	5,802,530.12
Interstate	6,262,424.20

“(f) Revenues assigned to the State of Washington comprise the entire revenue accruing from business local to the state plus a mileage proportion of interstate revenue, as is customary in apportioning revenues to states by carriers subject to the interstate commerce act, and includes also the entire revenue from switching and demurrage accruing in the state, whether from local or interstate business. The expenses assigned are those incurred in the state that are wholly applicable to [2268] the local business plus a mileage proportion of expenses which are applicable to all traffic, whether state or interstate, and which cannot be localized. This apportionment is also in accordance with the method prescribed by the Department of Public Works of the State of Washington and has been followed for more than twenty years and is as accurate as is possible in view of the inseparable nature of the two classes of business.

“(g) Expenses incurred in the State of Washington cannot be mathematically divided between

(Defendants' Exhibit 54-E—Continued)

local and interstate business because of the inseparable nature of the two kinds of business which are carried on the same lines of railroad, in the same trains and cars operated by the same employees, but local business is relatively short haul, incurs two terminal expenses within the state, while interstate business incurs but one terminal expense; local business uses more expensive terminal facilities in its handling from large distributing centers; clerical and warehouse expense is greater; damage to freight is greater; an excess of equipment is used for loading and unloading; car and engine miles per day are less; local trains are lighter and the wear and tear on the equipment is greater because of frequent starting and stopping; there is more switching, resulting in increased cost and greater damage to equipment; local trains are on the road more and consume more coal per mile; local short hauls are irregular and the facilities are used to less capacity. While the revenue per ton mile of local business is as 142 is to 100, the expense of doing the local business per unit of freight is much more than 42% greater than the cost of doing interstate business, and the expense of said local business is in excess of the revenue received therefrom.

[2269]

VII.

“(a) Defendant's interstate and local business is inseparably commingled and mutually dependent. For the year 1932 defendant's gross freight revenue

(Defendants' Exhibit 54-E—Continued)

(Account 101 of the Uniform System of Accounts) for business done in this state was \$10,570,610, of which \$5,497,482 was from local and \$5,073,128 from interstate business. For said year the local revenue ton miles were 326,000,000 and the interstate revenue ton miles in this state were 427,000,000 in round numbers. For the week March 25th to 31st, 1932, a representative period, defendant's local revenue net ton miles were 6,824,237 and interstate revenue net ton miles were 7,601,845, or 47.30% and 52.70% respectively; and of the local revenue net ton miles 3,022,719 were eastbound and 3,801,518 were westbound, and of the interstate revenue net ton miles 5,175,941 were eastbound and 2,425,904 westbound. Both classes of business, eastbound and westbound, were transported by defendant over the same lines of railroad, in the same trains, operated by the same employees, and with the same facilities, and it is not possible, practically and economically, or at all, to carry local separately from interstate freight business by different lines of railroad, in different trains, or by means of different instrumentalities or employees. Defendant's gross income from transportation of passengers in this state (Acct. 102) for the year 1932 was \$943,250.73, of which \$379,715.40 was from local and \$563,535.33 from interstate business; the number of revenue passengers carried during said year in this state was 280,521 of which 145,061 were carried locally and 135,460 interstate; the number of revenue passenger miles was 42,735,-

(Defendants' Exhibit 54-E—Continued)

770, of which 18,739,808 were local and 23,995,962 interstate. Much the larger part of said passengers were carried on interstate through trains East and West bound and on interstate through trains North and South bound. It is not possible to carry said local and interstate passengers on [2270] separate lines or by separate trains and the facts with respect thereto are identical with the facts alleged in respect to defendant's freight traffic. Defendant does not now have statistics for the year 1933, but they will be approximately the same as those for the year 1932 above stated.

* * * * *

IX.

“By reason of the matters and things alleged in paragraphs VI, VII and VIII thereof, said Chapter 191, Laws of 1933, as applied to defendant, violates Article I, Sec. 8, the due process and equal protection clauses of the 14th Amendment to the Constitution of the United States and the acts of Congress regulating interstate commerce, particularly Sec. 1 (18) to (21), Sec. 13, Sec. 15a and Sec. 19a thereof, and the Emergency Railroad Transportation Act, 1933, and is null and void.

“Wherefore, defendant prays that this action be dismissed with costs.”

* * * * *

REPLY:

“Comes now the plaintiff and replying to the allegations of defendant's answer,—

* * * * *

(Defendants' Exhibit 54-E—Continued)

“(2) As to Paragraph VI (a) thereof, plaintiff admits that defendant's railroad was constructed and equipped in the State of Washington at a cost of more than \$100,000,000 and prior to the enactment of Chapter 81, Laws of 1905. Plaintiff denies any knowledge or information sufficient to form a belief as to the miles of line either of defendant's system or of defendant's railroad within the State of Washington. Plaintiff admits that defendant's railroad in [2271] Washington is taxed by virtue of Chapter 130, Laws Special Session of 1925, on its fair market value, and that the ad valorem taxes levied thereon for 1933 are approximately \$2,000,000, and that defendant is also required by chapter 107, Laws of 1929 to pay to the department of Public Works one-tenth of one per cent of its gross revenue as an inspection and supervision fee, and that the tax imposed by Chapter 191, Laws of 1933, is not a property tax, but denies each and every other allegation, matter and thing therein contained.

“As to paragraph VI (c) to Paragraph VI (f) inclusive thereof, plaintiff denies any knowledge or information sufficient to form a belief as to the allegations therein contained and particularly as to any of the following allegations: the amount of defendant's system net railway operating income for either the year 1932 or the year 1933; the amount of defendant's gross railway operating revenues from both local and interstate business for either the year 1932 or the year 1933; the amount of defendant's

(Defendants' Exhibit 54-E—Continued)

railway operating expenses for both local and interstate business for either the year 1932 or the year 1933; the amount of defendant's gross railway operating revenues from local business in the State of Washington for either the year 1932 or the year 1933; the amount of defendant's gross railway operating revenues from interstate business in the State of Washington for either the year 1932 or the year 1933. For the reasons hereinafter alleged plaintiff avers that defendant's method of apportioning railway operating revenues and expenses to defendant's properties in Washington as alleged in said paragraph is unfair, unjust and inequitable to said properties in Washington, and does not show the true revenues and expenses apportionable to said properties.

“As to Paragraph VI (g) thereof, plaintiff admits that expenses incurred in the State of Washington cannot be mathematically divided [2272] between local and interstate business, and admits that the revenue per ton mile of local business in Washington is at least 42% greater than the revenue from defendant's interstate business apportioned to Washington on a mileage prorate, but denies each and every other *allegations*, matter and thing therein contained.

“(3) As to Paragraph VII (a) thereof, plaintiff denies any knowledge or information sufficient to form a belief as to any one of the items of statistical data therein set forth; denies that defendant's

(Defendants' Exhibit 54-E—Continued)

interstate and local business is either inseparably commingled or mutually dependent; denies that the week March 25th to 31st, 1932, was a representative period for comparing defendant's local revenue net ton miles with its interstate revenue net ton miles, or making any other comparison as to local and interstate traffic; denies that it is not possible or practicable to carry local freight business separately from interstate freight business; and denies that it is not possible to carry local and interstate passengers on separate trains.

* * * * *

“(4) As to Paragraph VIII thereof plaintiff denies that the operation of defendant's railroad in local business is essential to the people of the State of Washington, denies that there are any of defendant's local rates which defendant cannot raise sufficient to cover the amount of said occupation tax either because of competition of other kinds of transportation or for any other reason; denies that defendant has ever applied to the department of public works for an increase in local rates because of its being required to pay such occupation tax; denies that the enactment of Senate Bill 18 was urged by attorneys for the State of Washington for any purpose whatever, and denies that said bill was rejected by the legislature, but alleges, on the contrary, that said bill was never voted upon by [2273] either the senate or house of representatives.

(Defendants' Exhibit 54-E—Continued)

“(5) As to Paragraph IX thereof plaintiff denies each and every allegation, matter and thing therein contained.

* * * * *

“Wherefore, plaintiff prays judgment against defendant as prayed in its complaint herein.” [2274]

DEFENDANTS' EXHIBIT 55

is as follows:

“Before the Tax Commission of the State of Washington

“In the Matter of the reassessment of the operating property of the Northern Pacific Railway Company situated in the State of Washington, for the years 1935 and 1936.

“NOTICE OF MATTERS TO BE CONSIDERED
BY TAX COMMISSION

“To the Northern Pacific Railway Company and to its attorneys:

“You and each of you are hereby notified that in making the reassessments of the operating property of the Northern Pacific Railway Company in the State of Washington for the years 1935 and 1936, the Tax Commission proposes to take into consideration the set-ups, computations and tabula-

tions heretofore served upon you and also those hereto attached, and unless such data therein contained is disputed by evidence offered, the same will be used by the Commission if by it deemed pertinent.

“You are further notified that in making said reassessments the Tax Commission proposes to take into consideration the data contained in the testimony of witnesses and exhibits in the cases herein-after referred to, and particularly that portion specifically noted. The exhibits and transcripts of the testimony in said cases will be available for your examination at any time at the location indicated.

“(1) The case of *Adams County et al., vs. Spokane, Portland & Seattle Railway Company*, #7178 in the United States Circuit Court of Appeals for the Ninth Circuit (Printed record referred to, and copy available in Attorney General’s office): [2275]

“Testimony of O. B. Riddle, Rec. pp. 681-2, 702-3: Re: impropriety of mileage prorate division of revenue;

“Testimony of R. W. Pickard, Rec. pp. 701-702: Re: divisions of revenue;

“(2) The case of *Chicago, Milwaukee, St. Paul & Pacific Railroad Company vs. Adams County et al*, #7122 in the United States Circuit Court of Appeals for the Ninth Circuit (Printed Record referred to and available in Attorney General’s Office):

“Defendants’ Ex. “11”, Rec., last 3 lines p. 1999 and 1st 9 lines p. 2000; and last 11 lines p. 1993 to

line 2, p. 1996, being extracts from Census Bulletin 21: Re: allocation of system value.

“Testimony of A. S. Dudley, Rec. p. 1059: re value of terminals to system;

“Statement of F. M. Dudley, Rec. p. 743: re value of state operating statistics as indicating earnings by states;

“Testimony of H. B. Earling, Rec. pp. 758-766: re description and history of organization of lines in Washington by C. M. & St. P. Ry. Co.

“Testimony of Hal F. Wiggans, Rec. pp. 1118-1135, and Defendants’ Exhibit 21: re divisions of interline revenue between C. M. & St. P. Ry. Co. and its Washington subsidiaries.

“(3) Northern Pacific Railway Company vs. State of Washington, #529, October Term, 1935, in the Supreme Court of the United States (Printed Record referred to and available in office of Attorney General; exhibits available in the office of the clerk of the state supreme court):

“Testimony of E. V. Peterson, Rec. pp. 119-120: re computation of allocation factors; p. 128: re distribution of N. P. terminals; pp. 126-7; 206: re deferred maintenance; p. 243: re relative unit operating cost on main and branch lines; p. 120: re apportionment of [2276] operating revenues with reference to relative cost of service; p. 121-2: re past net revenues in Oregon and Wisconsin where allowed only a mileage prorate of revenues;

“Testimony of E. V. Peterson: re cost of switching in Washington;

“Defendants’ Exhibits 11, 12 and 13: re cost of switching in Washington.

“Testimony of A. S. Edmonds, Rec. pp. 199-203, and Plff’s Ex. 52: divisions of interline revenues in Union Pacific System, etc.

“(4) Northern Pacific Railway Company vs. Adams County et al, #E-4300 in the District Court of the United States for the Eastern District of Washington, Northern Division (Typewritten transcript of evidence referred to. Record available in office of clerk of said court):

“Master’s Report, p. 70, lns. 6-10: re value of relative net earnings factor of allocation;

“Testimony of E. V. Peterson, Rec. p. 687, and Testimony of Charles Donnelly, Rec. p. 5779; re distribution of N. P. terminals;

“Testimony of S. H. Crookes, Rec. pp. 3651-3677, and Testimony of H. B. Stoner, Rec. pp. 3681-3697; re Defendants’ Exhibit 252, 253 and 254: Re cost of N. P. terminals and other operating property in Seattle and Tacoma, Washington;

“Defendants’ Exhibit 248, p. 19 and testimony of Jas. W. Carey, Rec. p. 3075: re cost of line per mile within and without Washington;

“Testimony of Charles Donnelly, Rec. 5779-5784: re value of terminals to system;

“Testimony of E. V. Peterson, Rec. pp. 3716-3718, and of Charles Donnelly, Rec. pp. 5798-5810,

and Defendants' Exhibit 236: Re operations of tenant roads on Seattle-Vancouver line;

"Testimony of Jas. G. Woodward, Rec. p. 925, and of E. V. Peterson, Rec. 2975-6: re terms of contracts with tenant lines; [2277]

"Testimony of E. V. Peterson, Rec. pp. 676, 705, 723, 875: re computation of allocation factors not including movements of traffic on tenant lines;

"Testimony of R. W. Pickard, Rec. 9141-9169, 9343-9418: re divisions of interline, interdivision, and interstate revenue;

"Testimony of E. V. Peterson, Rec. pp. 2963-2975: re earnings in Wisconsin and Oregon as shown by state reports with revenues apportioned on a mileage prorate, etc.

"Testimony of Jas. W. Carey, Rec. pp. 3072-3, and Defendants' Ex. 248, p. 17: re earnings of S. P. & S. in Washington and Oregon as shown by S. P. & S. reports;

"Testimony of Charles Donnelly, Rec. pp. 5804-5808: propriety of using mileage prorate division of revenue, etc.; and pp. 5782-5789: re divisions of revenues between Washington and balance of N. P. system; etc.;

"Testimony of J. M. Ballingall, Rec. pp. 9078-9139, and Defendants' Exhibits 272, 273 and 274: re divisions between S. P. & S. and subsidiaries, and the N. P. and G. N.

“Dated this 9th day of August, 1937.

“TAX COMMISSION OF THE
STATE OF WASHINGTON

“By (Signed) T. S. HEDGES

Member

“By (Signed) T. M. JENNER

Member

“(Signed) R. G. SHARPE

“Assistant Attorney General,

“Attorney for Tax Com-
mission. [2278]

“Receipt of a copy of the foregoing notice to-
gether with papers thereto attached, acknowledged
this 9 day of August, 1937.

“(Signed) L. B. daPONTE &

ROBERT MACFARLANE

Attorneys for Northern Pa-
cific Railway Company

“Received copies of the papers attached to the
foregoing notice and verbal notice of hearing on
August 16, 1937.

“Dated August 9, 1937.

“(Signed) B. GRAY WARNER

Pros. Atty. King Co.

By WM. HICKMAN MOORE,

Deputy” [2279]

DEFENDANTS' EXHIBIT 55-A

Northern Pacific Railway Company

COMPUTATION OF SYSTEM REVENUE
FROM INTERSTATE FREIGHT TOUCH-
ING WASHINGTON FOR THE YEAR 1934.

The system revenues from L.C.L interstate freight touching Washington are not reported. The mileage prorate apportionment to Washington of revenues from L.C.L. freight is shown by the evidence to be \$426,100. If we assume that this figure bears the same relation to the total system revenue from L.C.L interstate freight touching Washington that the ton miles in Washington of carload interstate freight bears to the total system ton miles of carload freight touching Washington, then we can compute the total system revenue from L.C.L. interstate freight touching Washington as follows:

(A) Total revenue net ton miles (in 1000s) of interstate carload traffic touching Washington (Pltff's. Ex. 56).....	2,196,485
(B) Total revenue net ton miles (in 1000s) in Washington of interstate carload traffic touching Washington	605,902
(C) Percentage of revenue net ton miles (in 1000s) in Washington of total revenue net ton miles (in 1000s) of interstate carload traffic touching Washington (Line "B" ÷ Line "A")	27.585073%
(D) Mileage prorate apportionment to Washington of revenue from L.C.L. interstate freight touching Washington	\$426,100
(E) Total system revenue from L.C.L. interstate freight touching Washington (\$426,100 ÷ .27585073)	\$1,544,676

(F) System revenue from carload interstate freight touching Washington (Plff's. Ex. 63).....	\$18,395,281
(G) Total system revenue from interstate freight (carload and L.C.L.) touching Washington (Line "E" + Line "F").....	\$19,939,957
	[2280]

DEFENDANTS' EXHIBIT 56

Sheet No. 1

Northern Pacific Railway Company

COMPARISON OF TON MILES OF INTRASTATE REVENUE
FREIGHT HAULED IN WASHINGTON DURING 1934 INVOLV-
ING TWO HANDLINGS IN WASHINGTON AND NONE OUT-
SIDE OF WASHINGTON, WITH TON MILES OF REVENUE
FREIGHT NOT TOUCHING WASHINGTON INVOLVING TWO
HANDLINGS OUTSIDE OF WASHINGTON AND NONE WITH-
IN WASHINGTON

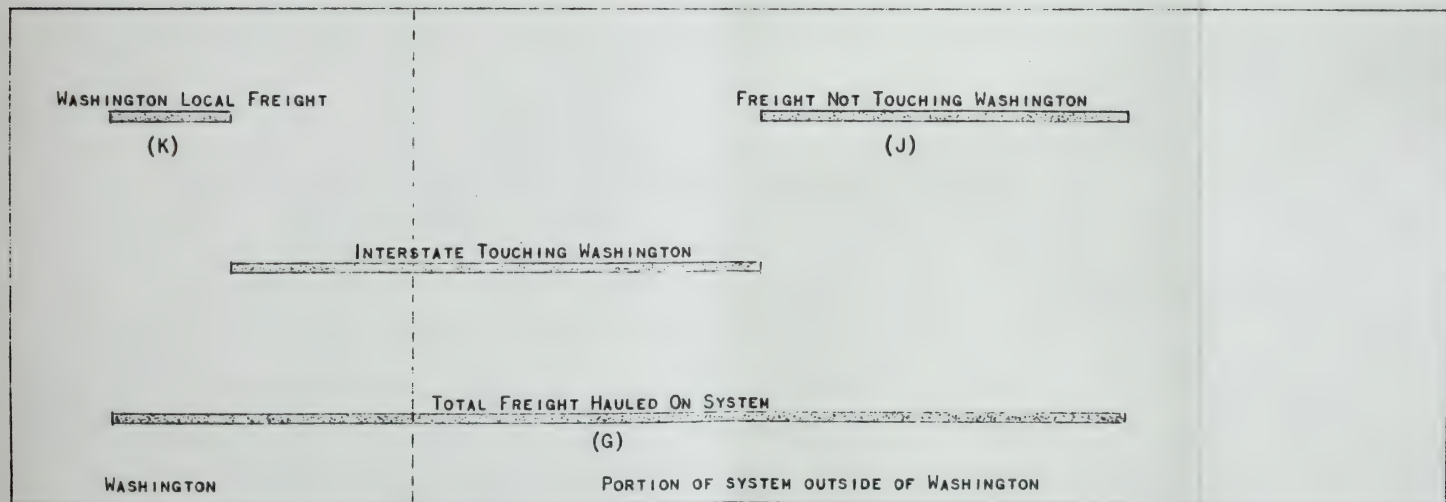
(A) Net ton miles hauled outside of Washington of interstate carload revenue freight touching Washington (in 1000s) (Defs'. Ex. 55-A, Line "A" — Line "B").....	1,590,583
(B) Net ton miles hauled in Washington of interstate carload revenue freight touching Washington (in 1000s) (Defs'. Ex. 55-A Line "B").....	605.902

Not having available the net ton miles of interstate L.C.L. freight touching Washington which moves in states other than Washington, it is assumed that the proportion of such freight moving in other states bears the same relation to that moving in Washington as the ton miles hauled outside of Washington of carload interstate freight touching Washington bears to the ton miles of such freight hauled in Washington. Thus:

(C) Relation of net ton miles hauled in Washington of interstate carload revenue freight touching Washington to total net ton miles of interstate carload revenue freight touching Washington and hauled outside of Washington (Line "B" ÷ Line "A").....	38.093077%
---	------------

(D)	Total net ton miles hauled in Washington of L.C.L. (less than carload) interstate revenue freight touching Washington (in 1000s).....	8,797
(E)	Computed net ton miles hauled outside of Washington of L.C.L. interstate revenue freight touching Washington (in 1000s) (Line "D" ÷ Line "C").....	23,093
(F)	Computed net ton miles hauled outside of Washington of (L.C.L. + carload) interstate revenue freight touching Washington (in 1000s) (Line "E" + Line "A")	1,613,676
(G)	Total ton miles of revenue freight hauled on system (in 1000s)	3,939,247
(H)	Total ton miles of revenue freight hauled in Washington (in 1000s), Intrastate 334,621 Interstate 614,699 (B + D).....	949,320
(I)	Total ton miles of revenue freight hauled outside of Washington (in 1000s) (Line "G" — Line "H").....	2,989,927
(J)	Total ton miles of revenue freight hauled outside of Washington which did not touch Washington (and as to which two handlings were involved outside of Washington and none in Washington)—in 1000s (Line "I" — Line "L").....	1,376,251
(K)	Net ton miles of intrastate revenue freight hauled in Washington (in 1000s).....	334,621
(L)	Relation of net ton miles of intrastate revenue freight hauled in Washington (involving two handlings in Washington and none outside of Washington) to net ton miles of revenue freight hauled outside of Washington which did not touch Washington (involving two handlings outside of Washington and none in Washington) (Line "K" ÷ Line "J").....	24.313951%
(M)	Relation of net ton miles of all revenue freight moving in Washington to net ton miles moving outside of Washington (Line "H" ÷ Line "I").....	31.750608%

DEFS¹. EX. 56
SHEET No. 2



(GRAPH EXPLAINING DEFS. EX. 56, SHEET 1)



DEFENDANTS' EXHIBIT 56-A

Sheet 1

Northern Pacific Railway Company

COMPUTATION SHOWING AVERAGE MILES OF HAUL, TOTAL TONNAGE, AND TON MILES OF (A) WASHINGTON INTRASTATE REVENUE FREIGHT, (B) INTERSTATE REVENUE FREIGHT MOVING IN WASHINGTON, (C) MOVEMENTS IN OTHER STATES OF INTERSTATE REVENUE FREIGHT TOUCHING WASHINGTON, AND (D) REVENUE FREIGHT NOT TOUCHING WASHINGTON; ALL FOR YEAR 1934

(A) Washington Intrastate Revenue Freight

(A-1) Total ton miles intrastate revenue freight hauled in Washington	334,620,659
(A-2) Ton miles logs hauled intrastate in Washington.....	66,845,648
(A-3) Ton miles all other intrastate revenue freight hauled in Washington— (“A-1” — “A-2”).....	267,775,011
(A-4) Total tons of intrastate revenue freight hauled in Washington	3,589,358
(A-5) Tons of logs hauled intrastate in Washington.....	1,712,473
(A-6) Tons of all other intrastate revenue freight hauled in Washington (“A-4” — “A-5”).....	1,876,885
(A-7) Average miles of haul of intrastate revenue freight in Washington (“A-1” ÷ “A-4”).....	93.2258
(A-8) Average miles of intrastate log haul in Washington (“A-2” ÷ “A-5”).....	39.0346
(A-9) Average miles of haul of all other intrastate revenue freight in Washington (“A-3” ÷ “A-6”).....	142.6699

(B) Interstate Revenue Freight Hauled in Washington

(B-1) Total tons of freight hauled in Washington, intra and interstate	6,197,384
(B-2) Tons of intrastate freight hauled in Washington.....	3,589,358
(B-3) Total tons interstate freight hauled in Washington (“B-1” — “B-2”).....	2,608,026
(B-4) Total ton miles interstate freight hauled in Washington	614,699,186
(B-5) Average miles of haul interstate freight hauled in Washington (“B-4” ÷ “B-3”).....	235.6952

(C) Interstate Revenue Freight Touching Washington,
Hauled Outside of Washington

(C-1) Total tons of interstate freight touching Washington, and hauled outside of Washington (same as Line "B-3")	2,608,026
(C-2) Total ton miles hauled outside of Washington of interstate freight touching Washington (Defs'. Ex. 56, Line "F")	1,613,676,000
(C-3) Average miles of haul outside of Washington of interstate freight touching Washington ("C-2" ÷ "C-1")	618.7346

(D) Revenue Freight Not Touching Washington

(D-1) Total tons revenue freight carried on system.....	12,922,016
(D-2) Tons of intrastate freight hauled in Washington	3,589,358
(D-3) Tons of interstate freight touching Washington	2,608,026
	<hr/>
(D-4) Tons of system freight not touching Washington	6,724,632
(D-5) Total ton miles of all freight hauled on system	3,939,247,066
(D-6) Total ton miles intrastate freight—Washington	334,620,659
(D-7) Total ton miles interstate freight touching Washington, hauled in Washington	614,699,186
(D-8) Total ton miles interstate freight touching Washington, hauled outside Washington	1,613,676,000
	<hr/>
(D-9) Total ton miles freight not touching Washington (Defs'. Ex. 56, Line "J")	1,376,251,221
(D-10) Average haul in miles of system revenue freight not touching Washington ("D-9" ÷ "D-4").....	204.6582
	[2283]

DEFENDANTS' EXHIBIT 56-A

Sheet 2

Northern Pacific Railway Company

COMPUTATION SHOWING AVERAGE MILES OF HAUL, TOTAL TONNAGE, AND TON MILES OF (E) INTERSTATE REVENUE FREIGHT TOUCHING WASHINGTON, HAULED ON SYSTEM, (F) INTRASTATE FREIGHT IN STATES OTHER THAN WASHINGTON AND (G) SYSTEM INTERSTATE FREIGHT NOT TOUCHING WASHINGTON; AND COMPUTATION SHOWING (H) SYSTEM REVENUES FROM INTRASTATE AND INTERSTATE FREIGHT AND (I) SYSTEM REVENUES PER TON OF INTRASTATE AND INTERSTATE FREIGHT; ALL FOR THE YEAR 1934.

(E) Interstate Revenue Freight Touching
Washington Hauled on System

(E-1) Total tons interstate freight hauled in Washington (See Line "B-3").....	2,608,026
(E-2) Total ton miles of said interstate freight hauled in Washington (See Line "B-4")	614,699,186
(E-3) Total ton miles of said interstate freight hauled outside of Washington (See Line "C-2").....	1,613,676,000
<hr/>	
(E-4) Total ton miles within and without Washington of interstate freight touching Washington (Line "E-2" + Line "E-3").....	2,228,375,186 2,228,375,186
(E-5) Average length of haul within and without Washington of interstate freight touching Washington (Line "E-4" ÷ Line "E-1").....	854.4298 Miles

(F) Intrastate Freight in States Other
Than Washington

(F-1) Total tons of intrastate freight hauled on system (See N. P. letter of Jan. 5, 1938).....	6,179,701
(F-2) Total tons intrastate freight hauled in Washington	3,589,358

(F-3) Total tons intrastate freight hauled in states other than Washington (Line "F-1" — Line "F-2").....	2,590,343
(F-4) Total ton miles of intrastate freight hauled on system (See N. P. letter of Jan. 5, 1938).....	608,865,423
(F-5) Total ton miles intrastate freight hauled in Washington (Line "A-1")	334,620,659
<hr/>	
(F-6) Total ton miles intrastate freight hauled outside of Washington (Line "F-4" — Line "F-5").....	274,244,764
(F-7) Average haul in miles of intrastate freight in states other than Washington (Line "F-6" ÷ Line "F-3")	105.8720 Miles

(G) System Interstate Freight Not
Touching Washington

(G-1) Tons of system freight not touching Washington (Line "D-4")	6,724,632
(G-2) Tons of intrastate freight not touching Washington (Line "F-3")	2,590,343
<hr/>	
(G-3) Tons of interstate freight not touching Washington (Line "G-1" — Line "G-2")	4,134,289
(G-4) Total ton miles of freight not touching Washington (Line "D-9")	1,376,251,221
(G-5) Total ton miles of intrastate freight hauled outside of Washington (Line "F-6").....	274,244,764
<hr/>	
(G-6) Total ton miles of interstate freight not touching Washington (Line "G-4" — Line "G-5").....	1,102,006,457
(G-7) Average haul in miles of interstate freight not touching Washington (Line "G-6" ÷ Line "G-2")	266.5528 Miles

(H) System Revenues (Acct. 101) From
Intrastate and Interstate Freight

(H-1) Revenues from Washington intrastate freight (Pg. 700, W. D. P. W. Rep.).....	\$ 4,882,700
(H-2) Revenue from interstate freight touching Washington (Defs'. Ex. 55A, Line G).....	\$19,939,957

(H-3) System revenue from intrastate freight (See N. P. letter Jan. 5, 1938).....	\$9,068,848	
(H-4) Revenue from Washington intrastate freight (Line "H-1").....	4,882,700	
<hr/>		
(H-5) System revenue from intrastate freight outside of Washington (Line "H-3" — Line "H-4")	\$4,186,148	\$ 4,186,148
		[2284]

DEFENDANTS' EXHIBIT 56-A

Sheet 3

Northern Pacific Railway Company

(H-6) Total system freight revenue (Acct. 101) (P. 302, W.D.P.W. rep.).....		\$43,205,825
(H-7) System revenue from intrastate freight (Line "H-3")	\$ 9,068,848	
(H-8) Revenue from interstate freight touch- ing Washington (Line "H-2").....	\$19,939,957	
<hr/>		
(H-9) Revenue from freight other than inter- state freight not touching Washington (sum of Lines "H-7" and "H-8").....	\$29,008,805	\$29,008,805
<hr/>		
(H-10) Revenues from interstate freight not touching Washington (Line "H-6" — Line "H-9")		\$14,197,020

(I) System Revenues Per Ton of Interstate and Intrastate Freight

(I-1) System revenues per ton from Washington intrastate freight (Line "H-1" ÷ Line A-4').....	\$1.3603
(I-2) System revenues per ton on Washington interstate freight (Line "H-2" ÷ Line "B-3").....	\$7.6456
(I-3) System revenues per ton on intrastate freight in states other than Washington (Line "H-5" ÷ Line "F-3")	\$1.6161
(I-4) System revenues per ton from interstate freight not touching Washington (Line "H-10" ÷ Line "G-3")	\$3.4340

(J) Proportion of System Freight Revenues (Acct. 101)
Contributed by Washington Traffic

Intrastate Freight Revenues

(J-1) System revenue from intrastate freight (Line "H-3")	\$9,068,848
(J-2) Revenue from Washington intrastate freight (Line "H-4")	\$4,882,700
(J-3) Proportion of system intrastate freight revenue contributed by Washington (Line "J-2" ÷ Line "J-1")	53.8404%

Interstate Freight Revenues

(J-4) Total system freight revenue (Acct. 101) (Line "H-6")	\$43,205,825
(J-5) System revenue from intrastate freight (Line "H-3")	\$9,068,848
<hr/>	
(J-6) System revenue from interstate freight (Line "J-4" — Line "J-5")	\$34,136,977
(J-7) Revenue from interstate freight touching Washington (Line "H-2")	\$19,939,957
(J-8) Proportion of system interstate freight revenue contributed by Washington lines as originating or distributing carrier (Line "J-7" ÷ Line "J-6")	58.4116%

Total Freight Revenues

(J-9) Total system freight revenue (Acct. 101) (Line "H-6")	\$43,205,825
<hr/>	
(J-10) Revenue from Washington intrastate freight (Line "H-4")	\$4,882,700
(J-11) Revenue from interstate freight touching Washington (Line "H-2")	\$19,939,957
<hr/>	
(J-12) Total revenue from Washington intrastate freight and interstate freight touching Washington (Line "J-10" + Line "J-11")	\$24,822,657
(J-13) Proportion of total system freight revenue (Acct. 101) contributed by Washington lines as originating or distributing carrier (Line "J-12" ÷ Line "J-9")	57.4521%

[2285]

DEFENDANTS' EXHIBIT 56-D

Chicago, Burlington & Quincy Railroad Company

	Net Income before Dividends	Dividends	
		Income	Profit & Loss
1922	\$ 20,261,488	\$ 17,083,700	
3	19,290,529	17,083,735	
4	21,899,829	17,083,765	
5	21,184,593	17,083,785	
6	23,987,968	17,083,800	
7	21,443,124	17,083,815	
8	26,278,252	17,083,820	
9	29,576,538	17,083,850	
1930	21,979,859	17,083,870	8,541,935
1	13,319,735	8,541,935	8,541,935
2	1,502,816		5,125,161
3	5,598,024		5,125,161
4	4,454,760		5,125,161
5	1,842,844		3,416,774
6	5,157,164	5,157,164	1,676,384
Total 1922-1936	\$237,777,523	\$167,453,239	\$37,552,511

Northern Pacific Ry. Co.

August 31, 1937.

[2286]

DEFENDANTS EXHIBIT 57

Northern Pacific Railway Company

AVERAGE ANNUAL RAILWAY OPERATING EXPENSES (LESS EXPENSES INCIDENT TO FOREIGN LINE SWITCHING) ASSIGNABLE TO FREIGHT SERVICE FOR 1931 TO 1933 INCLUSIVE, CHARGED TO MAINTENANCE OF WAY AND STRUCTURES AND TO FREIGHT TRAIN CAR REPAIRS, PLUS ALL THE RAILWAY OPERATING EXPENSES ASSIGNABLE TO FREIGHT FOR 1933 ONLY—SYSTEM.

Cost study for test week in Business Tax Case based on railway operating expenses assignable to freight service for 1933 as reported except that annual average for 1931 to 1933 was used as to operating expenses incident to maintenance of way and structures, and freight train car repairs. Such expenses are therefore computed as follows:

(A) Operating expenses assignable to freight service as to which three year average is taken:

	1931	1932	1933	Total	Annual Average
(A-1) Maintenance of Way and structures	\$5,677,837	\$4,085,821	\$3,795,302	\$13,558,960	\$4,519,653
(A-2) Frgt Trn Car Reprs	3,302,929	2,340,066	1,975,539	7,618,534	2,539,511
(A-3) Total of lines (A-1) and (A-2)	\$8,980,766	\$6,425,887	\$5,770,841	\$21,177,494	\$7,059,164
(A-4) Total of above railway operating expenses for 1933 only				\$ 5,770,841	
(B) Excess of three year average of above maintenance ex- penses (A-1) and (A-2) over same for 1933 only				\$ 1,288,323	
(C) Railway operating expenses for system for 1933 as- signable to freight service as reported (D. P. W. Rep., Pg. 309)				\$27,699,437	
(D) Average annual system railway operating expenses as- signable to freight service for 1931 to 1933 inclusive, charged to maintenance of way and structures and freight train car repairs, plus all other system rail- way operating expenses assignable to freight for 1933 only (B + C)				\$28,987,760	

Freight Operating Ratio (System)

(E) System railway operating revenue assignable to freight service for 1933	\$41,436,151
(F) Ratio of system railway operating expense incident to freight service as above computed to system railway operating revenue assignable to freight service for year 1933 (Line "D" ÷ Line "E").....	69.958%

System Freight Operating Expenses
Less Switching

(G) System revenue from switching (Acct. #110) for 1933 \$	781,241
(H) System operating expenses incident to switching (Line "F" × Line "G").....	\$ 546,541
(I) System railway operating expenses incident to freight service for 1933 less expenses incident to switching (Line "D" — Line "H").....	\$28,441,219

[2287]

DEFENDANTS' EXHIBIT 58

Northern Pacific Railway Company

AVERAGE ANNUAL RAILWAY OPERATING EXPENSES (LESS EXPENSE INCIDENT TO FOREIGN LINE SWITCHING) ASSIGNABLE TO FREIGHT SERVICE FOR 1931 TO 1933 INCLUSIVE, CHARGED TO MAINTENANCE OF WAY AND STRUCTURES AND TO FREIGHT TRAIN CAR REPAIRS, PLUS ALL OTHER RAILWAY OPERATING EXPENSES ASSIGNABLE TO FREIGHT FOR 1933 ONLY—WASHINGTON.

Cost study for test week in Business Tax Case based on railway operating expenses assignable to freight service for 1933 as reported except that annual average for 1931 to 1933 was used as to operating expenses incident to maintenance of way and structures, and freight train car repairs. Such expenses are therefore computed as follows:

(A) Operating expenses assignable to freight service in Washington as to which three year average is taken:

	1931	1932	1933	Total	Annual Average
(A-1) Maintenance of Way and structures	\$1,940,817	\$1,450,513	\$1,189,058	\$4,580,388	\$1,526,796
(A-2) Frgt Trn Car Reprs	754,401	521,920	420,070	1,696,391	565,464
(A-3) Total of lines (A-1) and (A-2)	\$2,695,218	\$1,972,433	\$1,609,128	\$6,276,779	\$2,092,260
(B) Excess of three-year average of above maintenance ex- penses (A-1 and A-2) over same for 1933 only.....				\$	483,132
(C) Railway operating expenses in Washington for 1933 as- signable to freight service as reported (D. P. W. Rep., Pg. 707)					\$8,002,333
(D) Average annual railway operating expenses for 1931 to 1933 inclusive, charged to maintenance of way and structures and freight train car repairs, plus all other railway operating expenses assignable to freight for 1933 only (Washington Only) (Line "B" + Line "C")					\$8,485,465

Washington Freight Operating Expenses
Less Switching

(E) Ratio of railway operating expense for system incident to freight service as computed to railway operating revenue assignable to freight service for year 1933 (system) (See Defs'. Ex. 57, Line "F").....	69.958%
(F) Revenue from switching (Acct. #110) for 1933 (Washington)	\$ 371,852
(G) Operating expenses incident to foreign line switching (Line "E" × Line "F").....	\$ 260,140
(H) Railway operating expenses incident to freight service for 1933 (Washington only) less expenses incident to foreign line switching (Line "D" — Line "G").....	\$8,225,325
	[2288]

DEFENDANTS' EXHIBIT 58-D

Northern Pacific Railway Company

NET INCOME—PERCENT OF MARKET VALUE
OF STOCK

	Net income (as stated)	
1930	\$17,228,716	
1931	8,902,336	
1932	(1,991,406)	
1933	303,979	
1934	899,406	
1935	431,782	
Average year 1930-1934, inclusive		\$ 5,068,606
“ “ 1930-1935, “		4,295,802

(.....) Indicates debit balance.

Market value of stock

1930	\$184,760,000
1931	94,550,000
1932	36,890,000
1933	50,530,000
1934	60,140,000
1935	44,950,000

Average year 1930-1934, inclusive	\$85,374,000
“ “ 1930-1935, “	78,636,666
Percentage of average net income to stock market value:	
Average year 1930-1934, inclusive	5.94
“ “ 1930-1935, “	5.46
	[2289]

DEFENDANTS' EXHIBIT 59

Sheet 1

Northern Pacific Railway Company

PERCENTAGE OF SYSTEM NET RAILWAY OPERATING INCOME (LESS TAXES) EARNED IN WASHINGTON IN 1933 IF INTERSTATE REVENUES APPORTIONED ACCORDING TO RELATIVE RAILWAY OPERATING EXPENSES LESS COST OF FOREIGN LINE SWITCHING (AND WITHOUT ALLOWANCE FOR RETURN ON DEPRECIATED REPRODUCTION COST)—BASED ON STUDIES MADE BY N. P. IN 1933 BUSINESS TAX CASE. PROPORTION OF SYSTEM NET RAILWAY OPERATING INCOME (LESS TAXES) EARNED IN WASHINGTON IN 1933 THUS INDICATED AS COMPARED WITH RESULTS OF TURNBURKE METHOD.

Method Followed of Excluding Railway Operating Expenses Incident to Intrastate Freight Service:

- (A) Railway operating expenses incident to freight service for 1933 (Washington only) less expenses incident to foreign line switching (See Defs'. Ex. 58, Line "H").....\$ 8,225,325
- (B) Railway operating expense incident to intrastate freight service, (other than foreign line switching) for 1933 (Washington only) taken from printed record of Business Tax Case, P. 163, 249 (\$251,000 + \$3,291,785).....\$ 3,542,785
- (C) Railway operating expense incident to interstate freight service for 1933 (Washington only) (Line "A" — Line "B")\$ 4,682,540

(D)	Revenue net ton miles of intrastate freight hauled in Washington in 1933 (D. P. W. Rep. P. 906).....	334,493,591
(E)	Revenue net ton miles of intrastate and interstate freight hauled in Washington in 1933 (D. P. W. Rep. P. 905).....	839,237,509
(F)	Revenue net ton miles of interstate freight hauled in Washington in 1933 (Line "E" — Line "D")	504,743,918
(G)	Railway operating expense per revenue net ton mile of hauling intrastate freight in Washington for 1933 (cents) (Line "B" ÷ Line "D")	1,059,148,843
(H)	Railway operating expense per revenue net ton mile of hauling interstate freight in Washington for 1933 (cents) (Line "C" ÷ Line "F")	0.927706076
(I)	Revenue net ton miles of freight hauled on system for 1933 (D. P. W. Rep. P. 509).....	3,568,371,982
(J)	Revenue net ton miles of interstate freight hauled on system for 1933 (figure supplied by N. P.).....	2,998,605,836
(K)	Revenue net ton miles of intrastate freight hauled on system for 1933 (Line "I" — Line "J")	569,766,146
(L)	Revenue net ton miles of intrastate freight hauled in Washington (Line "D" above).....	334,493,591
(M)	Railway operating expense (excluding foreign line switching expense) for system of hauling intrastate freight (assuming cost per unit for system to be same as in Washington (Line "G" × Line "K").....	\$ 6,034,672
(N)	Railway operating expenses incident to freight service for 1933 (system) less expenses incident to foreign line switching (Defs'. Ex. 57 Line "I").....	\$28,441,219

- (O) Railway operating expense (excluding foreign line switching expense) incident to interstate freight service (system) (Line "N" — Line "M") \$22,406,547
[2290]

DEFENDANTS' EXHIBIT 59

Sheet 2

Northern Pacific Railway Company

Method Followed of Determining Relation Between Cost of Hauling Interstate Freight in Washington and System Cost of Hauling Interstate Freight.

- (P) Railway operating expense (excluding foreign line switching expense) incident to interstate freight service in Washington for 1933 (Line "C" above).....\$ 4,682,540
- (Q) System railway operating expense (excluding foreign line switching expense) incident to interstate freight service (Line "O" above) \$22,406,547
- (R) Percentage of system interstate freight operating revenue apportionable to Washington on relative operating expense basis. (Line "P" ÷ Line "Q")..... 20.898088%

Computation of Indicated Percentage of System Net Railway Operating Income (Less Taxes) Earned in Washington

- (S) System operating revenue incident to interstate freight service (figure furnished by N. P.) \$31,550,969
- (T) Amount of operating revenue incident to interstate freight service (Acct. 101) apportionable to Washington on basis of relative operating expenses (Line "S" × Line "R") \$ 6,593,549
- (U) Railway operating revenue from interstate freight (Acct. 101) apportioned to Washington under Turnburke method (Line 2, Defs'. Ex. 40-A) \$ 6,636,087

(V)	Excess of amount of interstate freight revenue apportionable to Washington by Turnburke method over amount apportionable to Washington by present method (Line "U" — Line "T")	\$	42,538
(W)	Net railway operating income (less taxes) in Washington as shown by Turnburke method (Line 11, Defs'. Ex. 40-A).....	\$	3,760,027
(X)	Net railway operating income (less taxes) in Washington as shown by present method (Line "W" — Line "V").....	\$	3,717,489
(Y)	Net railway operating income (less taxes) for system (Line 14, Defs'. Ex. 40-A).....	\$	11,859,224
(Z)	Percentage of system net railway operating income (less taxes) earned in Washington in 1933 as shown by present method (Line "X" — Line "Y")		31.346815%
(ZZ)	Percentage shown by Turnburke method (Defs'. Ex. 40-A Line 15).....		31.705506%
			[2291]

NORTHERN PACIFIC RAILWAY COMPANY

Defts., Ex. 59-A

COMPARISON OF COST OF HAULING INTRASTATE FREIGHT OUTSIDE OF WASHINGTON WITH COST OF HAULING INTRASTATE FREIGHT IN WASHINGTON BASED ON ADDITIONS OF 32.6218 CONSTRUCTIVE MILES OF LINE HAUL AS THE EQUIVALENT OF EACH TERMINAL HANDLING OUTSIDE OF WASHINGTON - ALL FOR YEAR 1934.

IN THE FOLLOWING GRAPH "X" REPRESENTS MOVEMENT OUTSIDE OF WASHINGTON OF INTERSTATE FREIGHT TOUCHING WASHINGTON;
 "Y" REPRESENTS INTERSTATE FREIGHT NOT TOUCHING WASHINGTON;
 "Z" REPRESENTS INTRASTATE FREIGHT HAULED OUTSIDE OF WASHINGTON:

WASHINGTON	SYSTEM OUTSIDE OF WASHINGTON	
X	(A): 618.7346 MILES AVERAGE HAUL; (B): 2,608,026 TONS	(C): 32.6218 MILES
Y	(A-1): 266.5528 MILES AVERAGE HAUL; (B-1): 4,134,289 TONS	(C): 32.6218 MILES
Z	(A-2): 105.8720 MILES AVERAGE HAUL; (B-2): 2,590,343 TONS	(C): 32.6218 MILES
A	AVERAGE MILES OF HAUL OUTSIDE OF WASHINGTON OF INTERSTATE FREIGHT TOUCHING WASHINGTON (SEE SUBDIV. "C", DEFTS., EX. 56-A)	618.7346 MILES
A-1	AVERAGE MILES OF HAUL OF INTERSTATE FREIGHT NOT TOUCHING WASHINGTON (SEE SUBDIV. "G", DEFTS., EX. 56-A)	266.5528 MILES
A-2	AVERAGE MILES OF HAUL OF INTRASTATE FREIGHT HAULED OUTSIDE OF WASHINGTON (SEE SUBDIV. "F", DEFTS., EX. 56-A)	105.8720 MILES
B	TOTAL TONS OF REVENUE INTERSTATE FREIGHT TOUCHING WASHINGTON (SEE SUBDIV. "C", DEFTS., EX. 56-A)	2,608,026 TONS
B-1	TOTAL TONS OF REVENUE INTERSTATE FREIGHT NOT TOUCHING WASHINGTON (SEE SUBDIV. "G", DEFTS., EX. 56-A)	4,134,289 TONS
B-2	TOTAL TONS OF REVENUE INTRASTATE FREIGHT HAULED OUTSIDE OF WASHINGTON (SEE SUBDIV. "F", DEFTS., EX. 56-A)	2,590,343 TONS
C	CONSTRUCTIVE MILES OF LINE HAUL TO BE ADDED AS THE EQUIVALENT OF EACH TERMINAL HANDLING OUTSIDE OF WASHINGTON	32.6218 MILES
D	ACTUAL PLUS CONSTRUCTIVE TON MILES OUTSIDE OF WASHINGTON OF INTERSTATE FREIGHT TOUCHING WASH. ((A + C) x B) -	1,698,754,426 T.M.
E	ACTUAL PLUS CONSTRUCTIVE TON MILES OF INTERSTATE FREIGHT NOT TOUCHING WASHINGTON ((A-1" + 2"C") x "B-1")	1,371,742,207 T.M.
F	ACTUAL PLUS CONSTRUCTIVE TON MILES OF INTRASTATE FREIGHT OUTSIDE OF WASHINGTON ((A-2" + 2"C") x "B-2")	443,248,097 T.M.
G	TOTAL ACTUAL AND CONSTRUCTIVE TON MILES OF FREIGHT HAULED OUTSIDE WASHINGTON (IN 1000s) (SUM OF LNS. "D", "E" AND "F")	3,513,745 --- T.M.
H	TOTAL ADJUSTED FREIGHT OPERATING EXPENSES (LESS FOREIGN LINE SWITCHING EXPENSE) (DEFTS., EX. 60, SHEET 2, COL. "F")	
I	SYSTEM	\$28,766,647
J	WASHINGTON	8,242,111
K	OUTSIDE WN.	\$20,524,536
L	AVERAGE COST PER 1000 REV. NET TON MILES (ACTUAL AND CONSTRUCTIVE) OUTSIDE WASHINGTON ("J" + "G")	\$5.84214
M	EXPENSE OF HAULING INTRASTATE FREIGHT OUTSIDE OF WASHINGTON - 443,248 (SEE LN. "F") x \$5.84214 (SEE LN. "J")	\$2,589,106
N	ACTUAL TON MILES INTRASTATE REVENUE FREIGHT HAULED OUTSIDE WASH. (IN 1000s) (SEE DEFTS., EX. 56-A, SHT. 2, LN. "G-5")	274,245
O	COST PER 1000 ACTUAL REVENUE NET TON MILES OF INTRASTATE FREIGHT HAULED OUTSIDE OF WASHINGTON (L + M)	\$9.44
P	COST PER 1000 ACTUAL REVENUE NET TON MILES OF INTRASTATE FREIGHT HAULED IN WASHINGTON (DEFTS., EX. 61, SHEET 2, LINE "D")	\$9.44

DEFS'. Ex. 60
SHEET I

NORTHERN PACIFIC RAILWAY COMPANY

AVERAGE ANNUAL RAILWAY OPERATING EXPENSES ASSIGNABLE TO FREIGHT FOR EACH OF YEARS 1930 TO 1935 INCLUSIVE, USING THREE-YEAR AVERAGE FOR EXPENSES INCIDENT TO MAINTENANCE OF WAY AND STRUCTURES AND FREIGHT TRAIN CAR REPAIRS, AND ONE YEAR FOR ALL OTHER RAILWAY OPERATING EXPENSES ASSIGNABLE TO FREIGHT.

YEAR	MAINTENANCE OF WAY AND STRUCTURES (A)	FREIGHT TRAIN CAR REPAIRS (B)	TOTAL FOR THREE YEARS (C)	AVERAGE FOR THREE YEARS (D)	AMOUNT FOR LAST YEAR ONLY (E)	AMOUNT MORE OR LESS THAN THREE- YEAR AVERAGE. (F)	FREIGHT OPERATING EXPENSES AS REPORTED (G)	ADJUSTED FREIGHT OPERATING EXPENSES. (H)
<u>SYSTEM</u>								
1928	\$9,260,044	\$5,943,947						
1929	8,920,745	5,589,264						
(A) 1930	7,086,580	4,937,069	\$41,737,649	\$13,912,549	\$12,023,649	\$1,888,900	\$43,752,572	\$45,641,472
(B) 1931	5,677,837	3,302,929	35,514,424	11,838,141	8,980,766	2,857,375	36,670,059	39,527,434
(C) 1932	4,065,821	2,340,066	27,430,302	9,143,434	6,425,887	2,717,547	29,196,122	31,913,669
(D) 1933	3,795,302	1,975,539	21,177,494	7,059,164	5,770,841	1,288,323	27,699,437	28,987,760
(E) 1934	4,022,288	2,681,816	18,900,832	6,300,278	6,704,104	* 403,826	29,746,889	29,343,063
(F) 1935	4,516,735	3,258,578	20,250,258	6,750,086	7,775,313	* 1,025,227	31,863,295	30,838,068
<u>WASHINGTON</u>								
1928	\$3,244,091	\$1,306,917						
1929	3,063,933	1,242,299						
(G) 1930	2,428,386	1,100,149	\$12,385,775	\$4,128,592	\$3,528,535	\$600,057	\$13,299,089	\$13,899,146
(H) 1931	1,940,817	754,401	10,529,985	3,509,995	2,695,218	814,777	11,168,228	11,983,005
(I) 1932	1,450,513	521,920	8,196,186	2,732,062	1,972,433	759,629	8,921,755	9,681,384
(J) 1933	1,189,058	420,070	6,276,779	2,092,260	1,609,128	483,132	8,002,333	8,485,465
(K) 1934	1,195,958	544,204	5,321,723	1,773,908	1,740,162	33,746	8,496,275	8,530,021
(L) 1935	1,296,307	661,650	5,307,247	1,769,083	1,957,957	* 188,874	9,072,940	8,884,066

* NEGATIVE AMOUNT

NORTHERN PACIFIC RAILWAY COMPANY

DEFS¹.Ex. 60
SHEET 2

AVERAGE ANNUAL RAILWAY OPERATING EXPENSES (LESS EXPENSES INCIDENT TO FOREIGN LINE SWITCHING) ASSIGNABLE TO FREIGHT FOR EACH OF YEARS 1930 TO 1935 INCLUSIVE, USING THREE-YEAR AVERAGE FOR EXPENSES INCIDENT TO MAINTENANCE OF WAY AND STRUCTURES AND FREIGHT TRAIN CAR REPAIRS, AND ONE YEAR FOR ALL OTHER RAILWAY OPERATING EXPENSES ASSIGNABLE TO FREIGHT. DEDUCTION OF EXPENSE INCIDENT TO SWITCHING BASED ON SYSTEM FREIGHT OPERATING RATIO APPLIED TO SWITCHING.

YEAR	ADJUSTED FREIGHT OPERATING EXPENSES (VERTICAL COLUMN "H" SHEET 1) DEFS ¹ .Ex. 60 (A)	FREIGHT OPERATING REVENUE (B)	FREIGHT OPERATING RATIO (PERCENT A OF B) (C)	REVENUE CREDITED TO SWITCHING ACCOUNT NO. 110 (D)	EXPENSE INCIDENT TO SWITCHING (C X D) (E)	ADJUSTED FREIGHT OPERATING EXPENSE LESS EXPENSE IN- CIDENT TO SWITCH- ING. (A - E) (F)
<u>SYSTEM</u>						
(M) 1930	\$45,641,472	\$67,188,444	67.931	\$1,276,712	\$867,283	\$44,774,189
(N) 1931	39,527,434	52,445,864	75.368	1,000,534	754,082	38,773,352
(O) 1932	31,913,669	39,994,590	79.795	737,720	588,664	31,325,005
(P) 1933	28,987,760	41,436,151	69.958	781,241	546,541	28,441,219
(Q) 1934	29,343,063	44,703,197	65.640	878,148	576,416	28,766,647
(R) 1935	30,838,068	46,870,096	65.795	1,016,258	668,647	30,169,421
<u>WASHINGTON</u>						
(S) 1930	\$13,899,146		67.931	\$592,844	\$402,725	\$13,496,421
(T) 1931	11,983,005		75.368	466,365	351,490	11,631,515
(U) 1932	9,681,384		79.795	348,218	277,861	9,403,523
(V) 1933	8,485,465		69.958	371,852	260,140	8,225,325
(W) 1934	8,530,021		65.640	438,620	287,910	8,242,111
(X) 1935	8,884,066		65.795	513,978	338,172	8,545,894

DEFENDANTS' EXHIBIT 61

Sheet 1

Northern Pacific Railway Company

FORMULA USED FOR DETERMINING RAILWAY OPERATING EXPENSE IN WASHINGTON PER REVENUE NET TON MILE OF (1) INTERSTATE FREIGHT AND (2) INTRASTATE FREIGHT, FOR EACH OF YEARS 1930 TO 1935 INCLUSIVE BASED ON ASSUMPTION THAT RELATION BETWEEN SUCH EXPENSE PER UNIT OF INTRASTATE FREIGHT AND EXPENSE PER UNIT OF INTERSTATE FREIGHT IS SAME FOR EACH SUCH YEAR AS IN 1933.

“X” equals cost per ton mile of hauling interstate freight in Washington.

“Y” equals cost per ton mile of hauling intrastate freight in Washington.

“A” equals cost per revenue ton mile of intrastate freight in Washington in 1933.—1.059148843 cents. (See Defs'. Ex. 59, Sheet 1, Line “G”.)

“B” equals cost per revenue ton mile of interstate freight in Washington in 1933.—.927706076 cents. (See Defs'. Ex. 59, Sheet 1, Line “H”.)

“C” equals ton miles intrastate freight in Washington for particular year involved.

“D” equals ton miles interstate freight in Washington for particular year involved.

"E" equals total railway operating expense in Washington assignable to freight less expense incident to switching for particular year involved.

"F" equals X/Y equals B/A equals: .8758977381.

$XD+YC$ equals: E.

X/Y equals: F.

X equals: FY.

$FYD+YC$ equals: E.

$Y(FD+C)$ equals: E.

Y equals: $E \div (FD+C)$.

Hence cost per ton mile intrastate freight in Washington for any given year equals: Total freight operating expense in Washington less switching, divided by (.8758977381 (ton miles interstate freight in Washington) plus ton miles intrastate freight in Washington).

Cost per ton mile interstate freight in Washington for any given year equals: Cost per unit of intrastate freight in Washington times .8758977381.

[2295]

NORTHERN PACIFIC RAILWAY COMPANY

DEFS¹.Ex.61
SHEET 2

ADJUSTED RAILWAY OPERATING EXPENSE IN WASHINGTON PER REVENUE NET TON MILE OF (1) INTERSTATE FREIGHT AND (2) INTRASTATE FREIGHT FOR EACH OF YEARS 1930 TO 1935 INCLUSIVE BASED ON ASSUMPTION THAT RELATION BETWEEN SUCH EXPENSE PER UNIT OF INTRASTATE FREIGHT AND EXPENSE PER UNIT OF INTERSTATE FREIGHT WAS SAME FOR EACH SUCH YEAR AS IN 1933. (SEE FORMULA EXPLAINED IN SHEET 1.)

	1930	1931	1932	1933	1934	1935
(A) TOTAL ADJUSTED FREIGHT OPERATING EXPENSE IN WASHINGTON, LESS FOREIGN LINE SWITCHING	\$13,496,421	\$11,631,515	\$9,403,523	\$8,225,325	\$8,242,111	\$8,545,894
(B) TON MILES INTERSTATE FREIGHT HAULED IN WASHINGTON.	734,250,036	582,271,818	427,671,410	504,743,918	614,699,186	667,631,886
(C) TON MILES INTRASTATE FREIGHT HAULED IN WASHINGTON.	531,124,202	456,671,996	326,050,387	334,493,591	334,620,659	341,843,216
(D) COST PER TON MILE INTRASTATE FREIGHT IN WASHINGTON (SEE FORMULA M, OR: A / (.8758977381 x B) + C):	\$.01149363109	\$.01203240384	\$.01342120294	\$.01059148843	\$.00944076439	\$.00922264793
(E) COST PER TON MILE INTERSTATE FREIGHT IN WASHINGTON (SEE FORMULA N, OR: D x .8758977381)	\$.01006724547	\$.01053915531	\$.01175560130	\$.00927706076	\$.00826914418	\$.00807809646
(E-1) TOTAL ADJUSTED OPERATING EXPENSE IN WASHINGTON ASSIGNABLE TO INTERSTATE FREIGHT SERVICE (LINE "C" x LINE "B")	\$7,391,875	\$6,136,653	\$5,027,535	\$4,682,540	\$5,083,036	\$5,393,194

 2861
 2

DEFS¹. EX. 61
SHEET 3

NORTHERN PACIFIC RAILWAY COMPANY

PERCENTAGE OF SYSTEM NET RAILWAY OPERATING INCOME (LESS TAXES) EARNED IN WASHINGTON IF INTERSTATE REVENUES APPORTIONED ACCORDING TO RELATIVE RAILWAY OPERATING EXPENSES LESS COST OF FOREIGN LINE SWITCHING (AND WITHOUT ALLOWANCE FOR RETURN ON DEPRECIATED REPRODUCTION COST) BASED ON THE ASSUMPTIONS: (1) THAT RELATION BETWEEN EXPENSE PER UNIT OF HAULING INTRASTATE FREIGHT AND EXPENSE PER UNIT OF HAULING INTERSTATE FREIGHT IN WASHINGTON FOR EACH OF YEARS 1930 TO 1935 INCLUSIVE, WAS SAME AS FOR 1933; AND (2) THAT RAILWAY OPERATING EXPENSE PER NET TON MILE FOR HAULING INTRASTATE FREIGHT OUTSIDE OF WASHINGTON WAS SAME AS WITHIN STATE OF WASHINGTON.

	<u>1930</u>	<u>1931</u>	<u>1932</u>	<u>1933</u>	<u>1934</u>	<u>1935</u>
(F) NET TON MILES OF REVENUE FREIGHT HAULED ON SYSTEM (D.P.W. REP. P. 509)	5,420,866,297	4,074,528,222	3,087,635,028	3,568,371,982	3,939,247,066	4,382,753,092
(G) NET TON MILES OF REVENUE INTERSTATE FREIGHT HAULED ON SYSTEM (FIGURES SUPPLIED BY N.P.)	4,552,320,354	3,340,791,897	2,529,185,768	2,998,605,836	3,330,381,643	3,757,189,922
(H) NET TON MILES OF REVENUE INTRASTATE FREIGHT HAULED ON SYSTEM (LINE "F" - LINE "G")	868,545,943	733,736,325	558,449,260	569,766,146	608,865,423	625,563,170
(I) RAILWAY OPERATING EXPENSE FOR SYSTEM OF HAULING INTRASTATE FREIGHT (ASSUMING COST PER UNIT FOR SYSTEM TO BE SAME AS IN WASHINGTON (LINE "D" X LINE "H"))	\$9,982,747	\$8,828,612	\$7,495,061	\$6,034,672	\$5,748,155	\$5,769,349
(J) RAILWAY OPERATING EXPENSE INCIDENT TO FREIGHT SERVICE (SYSTEM) LESS EXPENSE INCIDENT TO FOREIGN LINE SWITCHING (DEFS ¹ . EX. 60, SHEET 2, VERTICAL COL. "F")	\$44,774,189	\$38,773,352	\$31,325,005	\$28,441,219	\$28,766,647	\$30,169,421
(K) RAILWAY OPERATING EXPENSE INCIDENT TO INTERSTATE FREIGHT SERVICE (SYSTEM) (LINE "J" - LINE "I")	\$34,791,442	\$29,944,740	\$23,829,944	\$22,406,547	\$23,018,492	\$24,400,072

DEFS¹. Ex. 61
SHEET 4

NORTHERN PACIFIC RAILWAY COMPANY

(L) PERCENTAGE OF SYSTEM INTERSTATE REVENUE (ACCT. 101) APPORTIONABLE TO WASHINGTON ON RELATIVE OPERATING COST BASIS (LINE "E-1" - LINE "K")	1930	1931	1932	1933	1934	1935
	21.246245%	20.493259%	21.097553%	20.898088%	22.082402%	22.103189%
(M) TOTAL OF SYSTEM INTERSTATE FREIGHT REVENUE (ACCT. 101) (DEFS ¹ . Ex. 41-A, LINE 11)	\$49,474,320	\$38,018,023	\$29,227,615	\$31,550,969	\$34,136,978	\$36,493,114
(N) AMOUNT OF INTERSTATE FREIGHT REVENUE (ACCT. 101) APPORTIONABLE TO WASHINGTON ON BASIS OF RELATIVE OPERATING EXPENSE ALONE (LINE "L" X LINE "M")	\$10,511,435	\$7,791,132	\$6,166,312	\$6,593,549	\$7,538,265	\$8,066,142
(O) RAILWAY OPERATING REVENUE FROM INTERSTATE FREIGHT (ACCT. 101) APPORTIONABLE TO WASHINGTON UNDER TURNBURKE METHOD (LINE 2, DEFS ¹ . Ex. 40-A)	\$10,902,504	\$8,089,884	\$6,185,330	\$6,636,087	\$7,654,473	\$8,234,750
(P) EXCESS OF AMOUNT APPORTIONABLE TO WASH- INGTON BY TURNBURKE METHOD OVER APPOR- TIONABLE TO WASHINGTON BY PRESENT CAL- CULATIONS (LINE "O" - LINE "N")	\$391,069	\$298,752	\$19,018	\$42,538	\$116,208	\$168,608
(Q) NET RAILWAY OPERATING INCOME (LESS TAXES) IN WASHINGTON AS SHOWN BY TURNBURKE METHOD (LINE 11, DEFS ¹ . Ex. 40-A)	\$7,954,102	\$4,952,779	\$3,136,664	\$3,760,027	\$4,509,557	\$4,372,505

DEFS¹. Ex. 61
 SHEET 5

NORTHERN PACIFIC RAILWAY COMPANY

	<u>1930</u>	<u>1931</u>	<u>1932</u>	<u>1933</u>	<u>1934</u>	<u>1935</u>	<u>ANNUAL AVER- AGE 1930-34</u>	<u>ANNUAL AVER- AGE 1931-35</u>
(R) NET RAILWAY OPERATING INCOME (LESS TAXES) IN WASHINGTON SHOWN BY PRESENT METHOD (LINE "a" - LINE "p")	\$7,563,033	\$4,654,027	\$3,117,646	\$3,717,489	\$4,393,349	\$4,203,897	\$4,689,109	\$4,017,282
(S) NET RAILWAY OPERATING INCOME (LESS TAXES) FOR SYSTEM (LINE 14, DEFS ¹ . Ex. 40-A)	\$21,773,991	\$13,617,807	\$8,667,744	\$11,859,224	\$13,227,801	\$13,012,412	\$13,829,313	\$12,076,998
(T) PROPORTION OF SYSTEM NET RAILWAY OPERATING INCOME (LESS TAXES) EARNED IN WASHINGTON AS SHOWN BY PRESENT METHOD (LINE "r" + LINE "s")	34.734252%	34.176039%	35.968367%	31.346815%	33.212996%	32.306824%	33.907028%	33.263912%
(U) PROPORTION OF SYSTEM NET RAILWAY OPERATING INCOME (LESS TAXES) EARNED IN WASHINGTON AS SHOWN BY TURNBURKE METHOD (DEFS ¹ . Ex. 40-A, LINE 15)	36.530290%	36.369872%	36.187779%	31.705506%	34.091509%	33.602571%	35.161732%	34.332257%

DEFS¹. Ex. 61
 SHEET 6

NORTHERN PACIFIC RAILWAY COMPANY

RELATION OF ADJUSTED NET RAILWAY OPERATING INCOME IN WASHINGTON TO THAT OF SYSTEM WHERE INTERSTATE REVENUE APPORTIONED TO WASHINGTON ACCORDING TO RELATIVE RAILWAY OPERATING EXPENSE (LESS FOREIGN LINE SWITCHING COST) ASSIGNABLE TO FREIGHT, BASED ON ASSUMPTIONS SET FORTH IN HEADING OF SHEET 3 OF THIS EXHIBIT. SYSTEM AND STATE TAX ACCRUALS FOR 1934 USED FOR 1934 AND ALL PRIOR YEARS; 1935 TAX ACCRUALS USED FOR 1935.

	1930	1931	1932	1933	1934	1935	ANNUAL AVER- AGE 1930-34	ANNUAL AVER- AGE 1931-35
(v-1) ADJUSTED NET RAILWAY OPERATING INCOME (LESS TAXES) IN WASHINGTON AS SHOWN BY PRESENT METHOD (LINE "R", SHEET 4)	\$7,563,033	\$4,654,027	\$3,117,646	\$3,717,489	\$4,393,349	\$4,203,897	\$4,689,109	\$4,017,282
(v-2) WASHINGTON RAILWAY TAX ACCRUALS (1935 FIGURE USED FOR 1935; 1934 FIGURE USED FOR ALL PRIOR YEARS) (ADJUSTED FOR R.R. RETIREMENT ACT - 1934)	\$1,705,911	\$1,705,911	\$1,705,911	\$1,705,911	\$1,705,911	\$1,724,363	\$1,705,911	\$1,709,601
(v-3) ADJUSTED NET RAILWAY OPERATING INCOME IN WASHINGTON (LINE "v-1" - LINE "v-2")	\$5,857,122	\$2,948,116	\$1,411,735	\$2,011,578	\$2,687,438	\$2,479,534	\$2,983,198	\$2,307,681
(w-1) SYSTEM ADJUSTED SYSTEM NET RAILWAY OPERATING INCOME (LESS TAXES) (LINE "s", SHEET 4)	\$21,773,991	\$13,617,807	\$8,667,744	\$11,859,224	\$13,227,801	\$13,012,412	\$13,829,313	\$12,076,998
(w-2) SYSTEM RAILWAY TAX ACCRUALS (1935 FIGURES USED FOR 1935; 1934 FIGURES USED FOR ALL PRIOR YEARS) (ADJUSTED FOR R.R. RETIREMENT ACT - 1934)	\$4,852,167	\$4,852,167	\$4,852,167	\$4,852,167	\$4,852,167	\$5,746,495	\$4,852,167	\$5,031,033
(w-3) SYSTEM ADJUSTED NET RAILWAY OPERATING INCOME (LINE "w-1" - LINE "w-2")	\$16,921,824	\$8,765,640	\$3,815,577	\$7,007,057	\$8,375,634	\$7,265,917	\$8,977,146	\$7,045,965
(x-1) PERCENT OF SYSTEM NET RAILWAY OPERATING INCOME AS SO ADJUSTED EARNED IN WASH. (LINE "v-3" + LINE "w-3")	34.612829%	33.632638%	36.999253%	28.707887%	32.086383%	34.125548%	33.231029%	32.751809%
(y-1) PERCENT OF SYSTEM NET RY. OPERATING INCOME (LESS TAXES) EARNED IN WASH. AS SHOWN BY TURNBURKE METHOD (DEFS ¹ . Ex. 40-A LN. 15)	36.530290%	36.369872%	36.187779%	31.705506%	34.091509%	33.602571%	35.161732%	34.332257%

Defendants' Exhibit 61-D:

NORTHERN PACIFIC RAILWAY COMPANY

Revenue Freight statistics - year ended December 31, 1935.

State	Revenue net ton-miles	Freight revenue (acct. 101) per ton	Average revenue per ton-mile	Average revenue haul (miles)
<u>I n t e r s t a t e</u>				
Wisconsin	910 553	\$ 16 599	\$.54	1.823
Minnesota	82 196 736	1 329 048	1.75	1.617
Saskatchewan (Province)				
North Dakota	94 446 942	1 060 978	1.77	1.123
Montana	105 608 284	1 496 655	1.20	1.417
Idaho	369 655	22 200	.95	6.030
Washington	341 843 216	4 830 125	1.31	1.413
Oregon	187 782	13 817	1.54	7.358
T o t a l	625 563 170	8 769 712	1.38	1.402
<u>I n t e r s t a t e</u>				
Wisconsin	18 145 221	\$ 210 673	\$.13	1.161
Minnesota	864 216 656	10 279 819	2.16	1.189
Saskatchewan (Province)				
North Dakota	2 276 070	31 198	.97	1.371
Montana	671 332 324	6 567 184	2.40	.978
Idaho	1367 862 104	11 485 109	4.58	.840
Washington	157 478 625	1 381 622	.67	.877
Oregon	667 631 836	6 454 375	2.32	.967
	8 247 666	83 134	.13	1.008
T o t a l	3757 189 922	36 493 114	4.95	.971
				509.82
<u>Total State Traffic - (Inter and intra-state)</u>				
Wisconsin	19 055 774	\$ 227 272	\$.14	1.193
Minnesota	946 412 794	11 608 867	2.11	1.227
Saskatchewan (Province)				
North Dakota	2 276 070	31 198	.97	1.371
Montana	765 779 266	7 628 162	2.29	.996
Idaho	1473 470 388	12 981 964	3.45	.881
Washington	157 843 280	1 403 912	.68	.889
Oregon	1009 475 052	11 284 500	1.74	1.118
	8 435 466	96 951	.15	1.149
T o t a l	4382 753 092	45 262 826	3.29	1.033
				318.94

DEFENDANTS' EXHIBIT 62

Sheet 1

Northern Pacific Railway Company

COMPUTATION OF COST OF REPRODUCTION
NEW LESS DEPRECIATION OF
PROPERTY USED BY TENANT LINES.

It is assumed that as part of the cost of its own railway operations, the N. P. is entitled to an allowance of a fair return on only that portion of its operating property used in its own railway operations. It is further assumed that that portion of the N.P.'s operating property used by tenant lines cannot be said to be used in the N.P.'s railway operations, and hence it is necessary to determine the depreciated reproduction cost of the N.P.'s operating property used by the N.P.'s tenant lines, for purposes of deduction. It is further assumed that the rental agreements between the N.P. and its tenants are in general based on a 5.75% return on the depreciated reproduction cost of the property used by such tenant lines, and consequently such depreceiated reproduction cost is computed by capitalizing at 5.75% the net joint facility rent income received by the N.P.

However, the joint facility rents as reported by the N.P. to the State regulatory bodies and Interstate Commerce Commission include not only the actual rentals received, but also the taxes on the rented properties contributed by such tenant lines. The only evidence available as to the proportion

of the joint facility rent income represented by the taxes so contributed, is a comparison of the rentals paid and taxes contributed by the G.N. and O-W for use of line between Seattle and Vancouver, Washington, and it has consequently been assumed that the same relation exists between all rentals received and taxes contributed both within the State and for the System. Thus:

(A) Proportion of reported net joint facility rent income represented by taxes paid by tenant lines.	
(A-1) Total joint facility rentals including taxes paid by G.N. and O-W on Seattle-Vancouver line during years 1932 to 1935 inclusive (Defs'. Ex. 27).....	\$5,205,954
(A-2) Total taxes contributed by said companies during same period (Defs'. Ex. 27).....	\$835,246
(A-3) Joint facility rents paid by said companies to N.P. during said period (Line "A-1" — Line "A-2").....	\$4,370,708
(A-4) Percentage of joint facility rents paid by said companies during said period (less taxes contributed by said companies) of total of such rentals as reported (including taxes contributed) (Line "A-3" ÷ Line "A-1")	83.9559473%
(B) Capitalization rate of joint facility rents (including taxes contributed by tenant lines) which is equivalent of capitalization rate of 5.75% of reported joint facility rents (not including taxes contributed by tenant lines) ($5.75 \div .839559473$).....	6.8488%

Similar Computation Based on Assumption That Joint Facility Rents Are Fixed on Basis of 4.5% Return on Investment in Road and Structures Used by Tenant Lines

(C) Relation between investment in roadway and structures and cost of reproduction less depreciation of operating property of N.P. for 1935.	
(C-1) Investment in roadway and structures as reported for 1935	\$482,420,668
(C-2) Reproduction cost new less depreciation of system operating property of N.P. for 1935 (less equipment) (Tax Commission's figures)	\$396,710,455
(C-3) Percentage of said depreciated reproduction cost, of N.P.'s system investment in roadway and structures (Line "C-2" ÷ Line "C-1").....	82.2333041%
	[2302]

DEFENDANTS' EXHIBIT 62

Sheet 2

Northern Pacific Railway Company

(C-4) Capitalization rate of joint facility rents (including taxes contributed by tenant lines) which is equivalent of capitalization rate of 4.5% of joint facility rents (not including taxes so contributed) (4.50 ÷ .839559473) (see Line "A-4").....	5.35995381%
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*These calculations not used in subsequent computations, but inserted merely for information of Court.

(C-5) Capitalization rate of joint facility rents (including taxes contributed by tenant lines) for determining reproduction cost new less depreciation of property used by tenant lines which is equivalent of 4.5% return on investment in roadway and structures (Line "C-4" ÷ Line "C-3", i.e., 5.35995381 ÷ .822333041.....	6.51798425%
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Capitalization Rate of Joint Facility Rents (Including Taxes Contributed by Tenant Lines) Yielding Landlord 5% and 6% Respectively.

- (D) Capitalization rate of reported joint facility rents (including taxes contributed by tenant lines) received by N. P. yielding a value to N. P. of property used by tenant lines from which N. P. realizes a net return of 5% ($5 \div \text{Line "A-4", i.e., } 5.0 \div .839559473$) 5.9555%
- (E) Capitalization rate of reported joint facility rents (including taxes contributed by tenant lines) received by N. P. yielding a value to N. P. of property used by tenant lines from which N. P. realizes a net return of 6% ($6.0 \div .839559473$)..... 7.1466%
[2303]

DEFS. Ex. 62
SHEET 3

NORTHERN PACIFIC RAILWAY COMPANY

COMPUTATION OF 5.75% RETURN ON PROPORTION OF DEPRECIATED REPRODUCTION COST APPORTIONABLE TO N.P.'S INTERSTATE FREIGHT SERVICE (LESS FOREIGN LINE SWITCHING) FOR SYSTEM.

	1930	1931	1932	1933	1934	1935
(A) DEPRECIATED REPRODUCTION COST - SYSTEM (DEFS'. Ex. 44-A)	\$476,651,866	\$477,476,653	\$479,183,133	\$478,677,858	\$474,065,831	\$472,164,615
(B) SYSTEM JOINT FACILITY RENT INCOME (CR) (DEFS'. Exs. 43-A, 43-B, AND 43-C, LINE "20")	\$2,437,105	\$2,419,941	\$2,466,395	\$2,567,989	\$2,545,359	\$2,508,374
(C) SYSTEM NET JOINT FACILITY RENT INCOME (CR) CAPITALIZED AT 5.75% AS REPRESENTATIVE OF DEPRECIATED REPRODUCTION COST OF PROPERTY USED BY TENANT LINES (EQUIVALENT TO CAPITALIZATION OF REPORTED JOINT FACILITY RENTALS AT 6.8488%) (SEE SHEET 1, LINE "B")(LINE "B" + .068488)	\$35,584,409	\$35,333,796	\$36,012,075	\$37,495,459	\$37,165,036	\$36,625,015
(D) DEPRECIATED REPRODUCTION COST OF PROPERTY USED BY N.P. IN ITS RAILWAY OPERATIONS (LINE "A" - LINE "C")	\$441,067,457	\$442,142,857	\$443,171,058	\$441,182,399	\$436,900,795	\$435,539,600
(E) TOTAL PASSENGER RAILWAY OPERATING EXPENSES FOR SYSTEM AS REPORTED.	\$18,981,849	\$15,412,789	\$12,237,057	\$11,294,055	\$11,803,924	\$12,230,305
(F) TOTAL ADJUSTED FREIGHT RAILWAY OPERATING EXPENSES FOR SYSTEM (INCLUDING FOREIGN LINE SWITCHING EXPENSE) (DEFS'. Ex. 60, SHEET 2, VERT. COL. "A")	\$45,641,472	\$39,527,434	\$31,913,669	\$28,987,760	\$29,343,063	\$30,838,068
(G) TOTAL ADJUSTED RAILWAY OPERATING EXPENSES FOR SYSTEM, FREIGHT AND PASSENGER (INCLUDING FOREIGN LINE SWITCHING EXPENSE) (LINE "E" + LINE "F")	\$64,623,321	\$54,940,223	\$44,150,726	\$40,281,815	\$41,146,987	\$43,068,373
(H) RAILWAY OPERATING EXPENSE INCIDENT TO INTERSTATE FREIGHT SERVICE (SYSTEM) (LESS FOREIGN LINE SWITCHING) (DEFS'. Ex. 61, SHEET 3, LINE "K")	\$34,791,442	\$29,944,740	\$23,829,944	\$22,406,547	\$23,018,492	\$24,400,072

62.1.3

DEFS'. Ex. 62
SHEET 4

NORTHERN PACIFIC RAILWAY COMPANY

	<u>1930</u>	<u>1931</u>	<u>1932</u>	<u>1933</u>	<u>1934</u>	<u>1935</u>
(I) PERCENTAGE OF RAILWAY OPERATING EXPENSE INCIDENT TO SYSTEM INTERSTATE FREIGHT SERVICE (LESS FOREIGN LINE SWITCHING) OF TOTAL RAILWAY OPERATING EXPENSE FOR SYSTEM, (LINE "H" + LINE "G")	55.837286%	54.504220%	53.974071%	55.624472%	55.942108%	56.654269%
(J) SYSTEM DEPRECIATED REPRODUCTION COST APPORTIONABLE TO INTERSTATE FREIGHT SERVICE (LESS FOREIGN LINE SWITCHING) (LINE "D" X LINE "I")	\$237,458,748	\$240,986,515	\$239,197,461	\$245,405,380	\$244,411,515	\$246,751,777
(K) 5.75% RETURN ON SYSTEM DEPRECIATED REPRODUCTION COST OF PROPERTY USED IN N.P.'S RAILWAY OPERATIONS, APPORTIONABLE TO INTERSTATE FREIGHT SERVICE (LESS FOREIGN LINE SWITCHING)(5.75% OF LINE "J")	\$13,653,878	\$13,856,725	\$13,753,854	\$14,110,809	\$14,053,662	\$14,188,227

DEFS¹. Ex. 62
SHEET 5

NORTHERN PACIFIC RAILWAY COMPANY

COMPUTATION OF 5.75% RETURN ON PROPORTION OF DEPRECIATED REPRODUCTION COST OF WASHINGTON OPERATING PROPERTY USED IN N.P.'S INTERSTATE FREIGHT OPERATIONS.

	1930	1931	1932	1933	1934	1935
(L) DEPRECIATED REPRODUCTION COST - WASHINGTON (DEFS ¹ . Ex. 44-A)	\$156,586,546	\$158,449,404	\$158,615,857	\$157,992,418	\$156,901,317	\$156,313,054
(M) WASHINGTON'S JOINT FACILITY RENT INCOME NET (CR) (DEFS ¹ . Ex. 40-A, LINE 9)	\$1,277,576	\$1,270,536	\$1,378,302	\$1,355,064	\$1,302,225	\$1,278,826
(N) WASHINGTON'S NET JOINT FACILITY RENT INCOME CAPITALIZED AT 5.75% AS REPRESENTATIVE OF DEPRECIATED REPRODUCTION COST OF PROPERTY USED BY TENANT LINES (EQUIVALENT TO CAPITALIZATION OF REPORTED JOINT FACILITY RENTALS AT 6.8488%; SEE SHEET 1, LINE "B") (LINE "M" + .068488)	\$18,654,012	\$18,551,221	\$20,124,723	\$19,785,422	\$19,013,915	\$18,672,264
(O) DEPRECIATED REPRODUCTION COST OF PROPERTY USED IN N.P.'S RAILWAY OPERATIONS (WASH.) (LINE "L" - LINE "N")	\$137,932,534	\$139,898,183	\$138,491,134	\$138,206,996	\$137,887,402	\$137,640,790
(P) TOTAL RAILWAY OPERATING EXPENSES FOR WASHINGTON ASSIGNABLE TO PASSENGER SERVICE AS REPORTED.	\$4,874,941	\$4,215,665	\$3,415,064	\$3,142,709	\$3,178,808	\$3,386,545
(Q) TOTAL ADJUSTED FREIGHT RAILWAY OPERATING EXPENSES IN WASHINGTON (INCLUDING FOREIGN LINE SWITCHING EXPENSE)(DEFS ¹ . Ex. 60, SHEET 2 VERT.COL."A")	\$13,899,146	\$11,983,005	\$9,681,384	\$8,485,465	\$8,530,021	\$8,884,066
(R) TOTAL ADJUSTED RAILWAY OPERATING EXPENSES FOR WASHINGTON, FREIGHT AND PASSENGER (INCLUDING FOREIGN LINE SWITCHING EXPENSE)(LINE "P" + LINE "Q")	\$18,774,087	\$16,198,670	\$13,096,448	\$11,628,174	\$11,708,829	\$12,270,611
(S) RAILWAY OPERATING EXPENSE INCIDENT TO WASHINGTON INTERSTATE FREIGHT SERVICE, LESS FOREIGN LINE SWITCHING (DEFS ¹ . Ex. 61, SHEET 2, LINE "E-1")	\$7,391,875	\$6,136,653	\$5,027,535	\$4,682,540	\$5,083,036	\$5,393,194

DEFS: Ex. 62
SHEET 6

NORTHERN PACIFIC RAILWAY COMPANY

	<u>1930</u>	<u>1931</u>	<u>1932</u>	<u>1933</u>	<u>1934</u>	<u>1935</u>
(T) PERCENTAGE OF RAILWAY OPERATING EXPENSE INCIDENT TO WASHINGTON INTERSTATE FREIGHT SERVICE (LESS FOREIGN LINE SWITCHING) OF TOTAL RAILWAY OPERATING EXPENSE IN WASHINGTON. (LINE "S" + LINE "R")	39.372754%	37.883684%	38.388539%	40.268919%	43.411993%	43.952123%
(U) WASHINGTON DEPRECIATED REPRODUCTION COST APPORTIONABLE TO WASHINGTON INTERSTATE FREIGHT SERVICE ("O" x "T")	\$54,307,837	\$52,998,586	\$53,164,723	\$55,654,463	\$59,859,669	\$60,496,049
(V) 5.75% RETURN ON WASHINGTON DEPRECIATED REPRODUCTION COST OF PROPERTY USED IN N.P.'S RAILWAY OPERATIONS APPORTIONABLE TO INTERSTATE FREIGHT SERVICE (5.75% OF LINE "U")	\$3,122,701	\$3,047,419	\$3,056,972	\$3,200,132	\$3,441,931	\$3,478,523

DEFS¹. Ex. 63

NORTHERN PACIFIC RAILWAY COMPANY

JOINT EQUIPMENT RENTALS APPORTIONABLE TO INTERSTATE FREIGHT SERVICE IN (1) WASHINGTON, AND (2) FOR SYSTEM.

	<u>1930</u>	<u>1931</u>	<u>1932</u>	<u>1933</u>	<u>1934</u>	<u>1935</u>
(A) JOINT EQUIPMENT RENTALS (CR) FOR SYSTEM APPORTIONABLE TO FREIGHT SERVICE (DEFS ¹ . Exs. 41 AND 41-A, LINE 2)	\$1,291,625	\$852,938	\$536,120	\$741,576	\$901,155	\$876,443
(B) JOINT EQUIPMENT RENTALS (CR) APPORTIONABLE TO WASHINGTON FREIGHT SERVICE (DEFS ¹ . Ex. 41 AND 41-A LINE 2)	\$300,692	\$209,443	\$133,013	\$171,974	\$207,029	\$186,695

IT HAVING BEEN SHOWN IN THE 1933 BUSINESS TAX CASE THAT NO JOINT EQUIPMENT RENTALS ARE APPORTIONABLE TO INTRASTATE TRAFFIC IN WASHINGTON, THE SAME ASSUMPTION IS MADE WITH RESPECT TO INTRASTATE FREIGHT TRAFFIC OUTSIDE OF WASHINGTON, AND CONSEQUENTLY ALL SUCH RENTALS HAVE BEEN APPORTIONED TO INTERSTATE FREIGHT TRAFFIC.

DEFS¹. Ex. 64
SHEET 1

NORTHERN PACIFIC RAILWAY COMPANY

AMOUNT OF RAILWAY OPERATING REVENUE INCIDENT TO INTERSTATE SERVICE APPORTIONABLE TO WASHINGTON, BASED ON THE APPORTIONMENT OF INTERSTATE FREIGHT REVENUE ACCORDING TO RELATIVE EXPENSE (LESS COST OF FOREIGN LINE SWITCHING) INCIDENT TO INTERSTATE FREIGHT SERVICE PLUS A 5.75% RETURN ON DEPRECIATED REPRODUCTION COST (OF PROPERTY USED IN N.P. RAILWAY OPERATIONS) AND BASED ALSO ON ASSUMPTIONS: (1) THAT RELATION BETWEEN EXPENSE PER UNIT OF HAULING INTRASTATE FREIGHT AND EXPENSE PER UNIT OF HAULING INTERSTATE FREIGHT IN WASHINGTON FOR EACH OF YEARS 1930 TO 1935, INCLUSIVE, WERE SAME AS FOR 1933; AND (2) THAT RAILWAY OPERATING EXPENSE PER NET TON MILE FOR HAULING INTRASTATE FREIGHT OUTSIDE OF WASHINGTON WAS SAME AS WITHIN WASHINGTON. RESULTING INDICATED PERCENTAGE OF SYSTEM NET RAILWAY OPERATING INCOME (LESS TAXES) EARNED IN WASHINGTON.

	<u>1930</u>	<u>1931</u>	<u>1932</u>	<u>1933</u>	<u>1934</u>	<u>1935</u>
(A) TOTAL ADJUSTED RAILWAY OPERATING EXPENSE IN WASHINGTON ASSIGNABLE TO INTERSTATE FREIGHT SERVICE. (DEFS ¹ . Ex. 61 SHEET 2, LINE "E-1")	\$7,391,875	\$6,136,653	\$5,027,535	\$4,682,540	\$5,083,036	\$5,393,194
(B) 5.75% RETURN ON WASHINGTON DEPRECIATED REPRODUCTION COST APPORTIONABLE TO WASHINGTON INTERSTATE FREIGHT SERVICE (DEFS ¹ . Ex. 62, SHEET 6, LINE "V")	\$3,122,701	\$3,047,419	\$3,056,972	\$3,200,132	\$3,441,931	\$3,478,523
(C) JOINT EQUIPMENT RENT INCOME (CR) APPORTIONABLE TO WASHINGTON INTERSTATE FREIGHT SERVICE (DEFS ¹ . Ex. 63 LINE "B")	\$300,692	\$209,443	\$133,013	\$171,974	\$207,029	\$186,695
(D) TOTAL RAILWAY OPERATING EXPENSE, RETURN ON DEPRECIATED REPRODUCTION COST, AND EQUIPMENT RENT INCOME APPORTIONABLE TO INTERSTATE FREIGHT SERVICE IN WASHINGTON (SUM OF LINES "A" TO "C" INCLUSIVE)	\$10,213,884	\$8,974,629	\$7,951,494	\$7,710,698	\$8,317,938	\$8,685,022



DEFS'. EX. 64
SHEET 2

NORTHERN PACIFIC RAILWAY COMPANY

	1930	1931	1932	1933	1934	1935
(E) TOTAL ADJUSTED SYSTEM OPERATING EXPENSE ASSIGNABLE TO INTERSTATE FREIGHT SERVICE (DEFS'. EX. 61, SHEET 3, LINE "K")	\$34,791,442	\$29,944,740	\$23,829,944	\$22,406,547	\$23,018,492	\$24,400,072
(F) 5.75% RETURN ON SYSTEM REPRODUCTION COST NEW LESS DEPRECIATION APPORTIONABLE TO SYSTEM INTERSTATE FREIGHT SERVICE (DEFS'. EX. 62 SHEET 4, LINE "K")	\$13,653,878	\$13,856,725	\$13,753,854	\$14,110,809	\$14,053,662	\$14,188,227
(G) JOINT EQUIPMENT RENT INCOME (CR) APPORTIONABLE TO SYSTEM INTERSTATE FREIGHT SERVICE (DEFS'. EX. 63, LINE "A")	\$1,291,625	\$852,938	\$536,120	\$741,576	\$901,155	\$876,443
(H) TOTAL RAILWAY OPERATING EXPENSE, RETURN ON REPRODUCTION COST NEW LESS DEPRECIATION, AND JOINT FACILITY AND EQUIPMENT RENT INCOME APPORTIONABLE TO SYSTEM INTERSTATE FREIGHT SERVICE (SUM LINES "E" TO "G")	\$47,153,695	\$42,948,527	\$37,047,678	\$35,775,780	\$36,170,999	\$37,711,856
(I) SAME APPORTIONABLE TO WASHINGTON INTERSTATE FREIGHT SERVICE (LINE "D")	\$10,213,884	\$8,974,629	\$7,951,494	\$7,710,698	\$8,317,938	\$8,685,022
(J) PERCENTAGE OF SYSTEM INTERSTATE REVENUE (ACCT. 101) APPORTIONABLE TO WASHINGTON ON BASIS OF RELATIVE COST OF SERVICE PLUS 5.75% RETURN ON REPRODUCTION COST NEW (LINE "I" + LINE "H")	21.660835%	20.896244%	21.462867%	21.552844%	22.996152%	23.029951%
(K) TOTAL OF SYSTEM INTERSTATE FREIGHT REVENUE (ACCT. 101) (DEFS'. EX. 41 AND 41-A, LINE 11)	\$49,474,320	\$38,018,023	\$29,227,615	\$31,550,969	\$34,136,978	\$36,493,114
(L) AMOUNT OF INTERSTATE FREIGHT REVENUE (ACCT. 101) APPORTIONABLE TO WASHINGTON ON BASIS OF RELATIVE COST OF SERVICE PLUS 5.75% RETURN ON REPRODUCTION COST (LINE "K" X LINE "J")	\$10,716,551	\$7,944,339	\$6,273,084	\$6,800,131	\$7,850,191	\$8,404,346

DEFS¹. Ex. 64
SHEET 3

NORTHERN PACIFIC RAILWAY COMPANY

	1930	1931	1932	1933	1934	1935	ANNUAL AVER- AGE 1930-34	ANNUAL AVER- AGE 1931-35
(M) LINE "L" BROUGHT FORWARD	\$10,716,551	\$7,944,339	\$6,273,084	\$6,800,131	\$7,850,191	\$8,404,346		
(N) RAILWAY OPERATING REVENUE FROM INTER- STATE FREIGHT (ACCT. 101) APPORTIONABLE TO WASHINGTON UNDER TURNBURKE METHOD (LINE 2, DEFS ¹ . EX. 40-A)	\$10,902,504	\$8,089,884	\$6,185,330	\$6,636,087	\$7,654,473	\$8,234,750		
(O) EXCESS OF AMOUNT APPORTIONABLE TO WASH- INGTON BY PRESENT CALCULATIONS OVER AMOUNT APPORTIONABLE BY TURNBURKE METHOD (LINE "M" - LINE "N") (* INDICATES RED FIGURE)	* \$185,953	* \$145,545	\$ 87,754	\$164,044	\$195,718	\$169,596		
(P) NET RAILWAY OPERATING INCOME (LESS TAXES) IN WASHINGTON AS SHOWN BY TURNBURKE METHOD (LINE 11, DEFS ¹ . EX. 40-A)	\$7,954,102	\$4,952,779	\$3,136,664	\$3,760,027	\$4,509,557	\$4,372,505		
(Q) NET RAILWAY OPERATING INCOME (LESS TAXES) IN WASHINGTON SHOWN BY PRESENT METHOD (LINE "P" + LINE "O")	\$7,768,149	\$4,807,234	\$3,224,418	\$3,924,071	\$4,705,275	\$4,542,101	\$4,885,829	\$4,240,620
(R) NET RAILWAY OPERATING INCOME (LESS TAXES) FOR SYSTEM (LINE 14, DEFS ¹ . EX. 40-A)	\$21,773,991	\$13,617,807	\$8,667,744	\$11,859,224	\$13,227,801	\$13,012,412	\$13,829,313	\$12,076,998
(S) PERCENT OF SYSTEM NET RAILWAY OPERATING INCOME (LESS TAXES) EARNED IN WASHINGTON AS SHOWN BY PRESENT METHOD (LINE "Q" + LINE "R")	35.676275%	35.301088%	37.200199%	33.088767%	35.571105%	34.905911%	35.329513%	35.113196%
(T) PERCENT OF SYSTEM NET RAILWAY OPERATING INCOME (LESS TAXES) EARNED IN WASHINGTON AS SHOWN BY TURNBURKE METHOD (DEFS ¹ . EX. 40-A, LINE 15)	36.530290%	36.369872%	36.187779%	31.705506%	34.091509%	33.602571%	35.161732%	34.332257%



DEFS¹. Ex. 64
SHEET 4

NORTHERN PACIFIC RAILWAY COMPANY

PERCENTAGE OF SYSTEM NET RAILWAY OPERATING INCOME EARNED IN WASHINGTON COMPUTED IN MANNER AND ON ASSUMPTIONS SET FORTH IN HEADING OF THIS EXHIBIT

	<u>1930</u>	<u>1931</u>	<u>1932</u>	<u>1933</u>	<u>1934</u>	<u>1935</u>	ANNUAL AVER- AGE 1930-34	ANNUAL AVER- AGE 1931-35
(Q-1) NET RAILWAY OPERATING INCOME (LESS TAXES) IN WASHINGTON AS SHOWN BY PRESENT METHOD (SHEET 3, LINE "Q")	\$7,768,149	\$4,807,234	\$3,224,418	\$3,924,071	\$4,705,275	\$4,542,101	\$4,885,829	\$4,240,620
(Q-2) WASHINGTON RAILWAY TAX ACCRUALS (1935 FIGURES USED FOR 1935; 1934 FIGURES USED FOR ALL PRIOR YEARS (ADJUSTED FOR RAILROAD RETIREMENT ACT - 1934)	\$1,705,911	\$1,705,911	\$1,705,911	\$1,705,911	\$1,705,911	\$1,724,363	\$1,705,911	\$1,709,601
(Q-3) NET RAILWAY OPERATING INCOME (INCLUDING TAXES) IN WASHINGTON AS SHOWN BY PRESENT METHOD - (LINE "Q-1" - LINE "Q-2")	\$6,062,238	\$3,101,323	\$1,518,507	\$2,218,160	\$2,999,364	\$2,817,738	\$3,179,918	\$2,531,019
(R-1) NET RAILWAY OPERATING INCOME (LESS TAXES) FOR SYSTEM (SHEET 3, LINE "R")	\$21,773,991	\$13,617,807	\$8,667,744	\$11,859,224	\$13,227,801	\$13,012,412	\$13,829,313	\$12,076,998
(R-2) SYSTEM RAILWAY TAX ACCRUALS (1935 FIGURES USED FOR 1935; 1934 FIGURES USED FOR ALL PRIOR YEARS (ADJUSTED FOR RAILROAD RETIREMENT ACT - 1934)	\$4,852,167	\$4,852,167	\$4,852,167	\$4,852,167	\$4,852,167	\$5,746,495	\$4,852,167	\$5,031,033
(R-3) NET RAILWAY OPERATING INCOME (INCLUDING TAXES) FOR SYSTEM (LINE "R-1" - LINE "R-2")	\$16,921,824	\$8,765,640	\$3,815,577	\$7,007,057	\$8,375,634	\$7,265,917	\$8,977,146	\$7,045,965
(S-1) PERCENT OF SYSTEM NET RAILWAY OPERATING INCOME (INCLUDING TAXES) EARNED IN WASHINGTON AS SHOWN BY PRESENT METHOD (LINE "Q-3" + LINE "R-3")	35.824968%	35.380451%	39.797572%	31.656086%	35.810591%	38.780212%	35.422371%	35.921538%
(T-1) PERCENT OF SYSTEM NET RAILWAY OPERATING INCOME (LESS TAXES) EARNED IN WASHINGTON AS SHOWN BY TURNBURKE METHOD (DEFS ¹ . Ex. 40-A, LINE 15)	36.530290%	36.369872%	36.187779%	31.705506%	34.091509%	33.602571%	35.161732%	34.332257%

DEFENDANTS' EXHIBIT 64-B

For Identification

is a certified copy of a book consisting of 115 pages and entitled: "Freight Traffic Report, Section of Transportation Service Volume 1, Federal Coordinator of Transportation. The following certificate is attached thereto:

"Interstate Commerce Commission

"Washington,

"May 16, 1938,

"Office of Joseph B. Eastman,

"Commissioner.

"I, Joseph B. Eastman, do hereby certify that the attached is an authentic and exact copy of the 'Freight Traffic Report, Volume I', issued by me as Federal Coordinator of Transportation on May 6, 1935.

"(Signed) JOSEPH B. EASTMAN."

Also attached is a certificate of W. P. Bartel, Secretary of the Interstate Commerce Commission as to authenticity of certificate by Joseph B. Eastman.

So far as material said exhibit is as follows:

“FEDERAL COORDINATOR OF
TRANSPORTATION

“Washington

“Joseph B. Eastman
Coordinator

“May 6, 1935

“To the Carriers’ Regional Coordinating Committees:

“I transmit herewith, for your consideration, a report on Freight Traffic, prepared by my Section of Transportation Service, under the direction of Mr. J. R. Turney. It covers all such traffic, except the so-called merchandise traffic, which has been covered in a previous report. Not only the freight traffic handled by the railroads is included, but also that handled by the water carriers, the highway carriers, and the pipe lines.

“The report is the result of a study which undertook to get the basic, fundamental facts in regard to this traffic, including the unit costs of every phase of operations, the character of service furnished and equipment used, the rates charged, and the extent to which present methods and practices are or are not well suited to modern [2313] commercial needs and competitive transportation conditions. These facts have been obtained, not only for the railroads, but for the other forms of transportation, so that comparisons can be made. Such informa-

tion has never hitherto been assembled with anything like the same degree of completeness, and most of it has not been available at all.

“In my judgment, the Section has done an extraordinary piece of work in gathering and analyzing these data, and it has involved constant, unremitting labor in which regular hours of service have been completely disregarded. The information has been obtained from the railroads, the other transportation agencies, shippers, and manufacturers, and they also have devoted a great amount of time and labor to it. For this hearty cooperation I am most grateful.

“All conclusions and suggestions in this report are based on this underlying factual survey. They have not been drawn out of the air, but have been derived from the facts and statistics which have been assembled. The supporting data are indicated in great detail.

“Some of these conclusions and suggestions will be regarded as radical or revolutionary, and I anticipate that they will be received with skepticism. That is a normal attitude, and an entirely appropriate one, so long as the skepticism is open-minded. The matters dealt with in the report are of such vast scope and importance that definite recommendations with respect to changes in present methods and practices, from me or from my Section of Transportation Service, would not be justified

at this stage nor until the data have been reviewed by others. We offer, therefore, not recommendations but suggestions.

“For my own part, I express for the present only the conviction that modern commercial needs and competitive transportation conditions imperatively demand a thorough reexamination of the operating methods of the railroads, of their service and equipment, and of their rate structure. If the report herewith submitted demonstrates nothing else, it demonstrates this. I believe that the need for many comprehensive changes will be found. The report and the data which accompany it will, I am confident, be of great value in such a reexamination.

“(Signed) JOSEPH B. EASTMAN” (p. 5)

“Federal Coordinator of Transportation,

“Section of Transportation Service,

“Washington.

“J. R. Turney,

“Director.

“May 1, 1935.

“Memorandum to the Coordinator:

“Herewith is the Section’s Freight Traffic Report. This report has been compiled in four distinct stages. The primary step was the mechanical tabulation in detail of the underlying data. These tabulations are contained in

two volumes of appendices which will be transmitted to you shortly. [2314]

“The second step was the statistical analysis of these tabulations, the results of which are contained in Volume III of the Report, entitled “Statistical Analyses”.

“The third step was the textual summary of the more salient facts revealed in the statistical analyses, the results of which are stated in Volume II of the Report, entitled “Factual Summary of Underlying Data”.

“The fourth and final step was a statement of the ultimate facts found and conclusions with respect thereto. These comprise the report proper and will be found in Volume I, herewith transmitted.

“To facilitate consideration and limit the necessity for explanatory matter, in the report proper, the Factual Summary and Statistical Analyses are integrated with the Report under a single outline, with the same topic treated in each case under a single system of numeration. This makes it possible to check the statements to the degree desired by each reader.

“The ultimate facts or conclusions are stated in the report proper. The evidence upon which they rest is recapitulated under the same section number in the Factual Summary, and the statistical data from which the evidence was drawn are in turn shown, still under the same section number, in the Statistical Analyses.

"The conclusions stated are those of the Section reached after consideration of the data. The volume and scope of the surveys make it impossible for any one to speak with finality. For this reason the Report is intended to provoke consideration of the basic data and their implications, and to point the need for a planned program over a period of years, and to suggest rather than to define that program.

"(Signed) J. R. TURNEY." (p. 7)

* * * * *

"SUMMARY

* * * * *

"The Operations."

* * * * *

"XXVII Yard and Terminal Operations. Economy in rail yard service has been sacrificed to attain economy in road movement by heavy train loading, with the result that yard costs are greater than road costs. The terminal costs of rail and water carlot carriers far exceeds that of other carriers and is about twice the cost of highway service. * * *." (p. 13)

* * * * *

“Federal Coordinator of Transportation,
“Section of Transportation Service.

“THE REPORT” (p. 15)

* * * * *

“The Operations.” (p. 73)

* * * * *

“XXVII Yard and Terminal Operations

“104. Elements. The foregoing analyses of operations are from the function standpoint. To measure relative utility, however, as well as to develop unit costs for pricing purposes, it is necessary to consider the aggregate costs of all functions necessary to accomplish definite service objectives. Because of the individual characteristics which appertain to the several carriers, particularly the railways, it is convenient to make this distribution of operations in two steps, first a location one—between yard and road operations; and second a service one—between line and terminal operations.

“Yard operations, those which are conducted in terminal areas, were responsible for 54 percent of rail costs (all functions); 26 percent of water carlot carrier costs; 12 percent of water cargo carrier costs; and 29 percent of pipe line costs.

“Yard operations are of two kinds: Terminal yardings, i.e., those incident to the origination and termination of the car which account for 70 percent of the total; and intermediate

yardings, those incident to the handling of cars in yards other than origin and destination yards which account for the remainder.

“Road operations, those located outside of the terminal areas, accounted for 46 percent of rail costs; 74 percent of water carlot carrier costs; 88 percent of water cargo carrier costs; and 71 percent of pipe line costs.

“From a strictly service standpoint, all yard operations may be termed as subordinate activities preparatory to the main purpose, which is to move freight from consignor’s door to consignee’s door. The cost of performing this subordinate operation has so grown in importance in rail operations that it is the dominant expense. This is due to the practice of attaining relatively great economy in road operation at the expense of yard operation in order to assemble carlot traffic into cargo or tonnage train loads.” (p. 95)

* * * * *

[2316]

“106. Terminal Costs. Rail terminal (terminal yardings) costs aggregated 37 percent of rail costs; 26 percent of water carlot carrier costs; 11 percent of water cargo carrier costs; and 16 percent of pipe line costs.

“The rail terminal (both terminals) cost \$1.13 per ton and \$26.84 per car of which \$5.67 was station service and maintenance.

“Comparable terminal costs of highway vehicles averaged about 50 cents per ton or about \$12, less than half the rail cost.

“One cause of the relatively high rail terminal costs lies in “reciprocally switched” or multiple carrier cars, that is, those switched to or from the origin or destination track by a switching carrier other than the road haul carrier in or out of the terminal. The average terminal cost of these cars is over twice that of the single carrier cars.

“XXVIII Line Operations

“107. Elements. In line operations the basic transport service is performed — the movement between communities. These operations differ from “road operations” only in that they also include intermediate yardings. The cost of line operations as a whole, embracing all functions—maintenance of way and equipment, transportation and overhead—absorbed 63 percent of rail costs; 76 percent of water carlot carrier costs; over 91 percent of water cargo carrier costs; and 32 percent of pipe line costs. The average cost per net ton mile of line service on railways was 5.3 mills; on water carlot carriers 4.6 mills; on water cargo carriers 1.1 mills; and on pipe lines 2.1 mills. About 40 percent of total rail line ex-

pense was due to intermediate yardings and 60 percent to road expense." (p. 98)

* * * * *

[2317]

"109. Yardings. Intermediate yardings (single and multiple carrier) of cars en route in 1932 cost the rail carriers over 300 million dollars, and were about 16 percent of the total rail cost. On the average a freight car was given a yarding (terminal or intermediate) every 70 miles or 6 times in its average journey, there being over 100 million of such handlings in 1932, at an average cost of over \$3 each.

"110. Conveyance. The average cost of road train movement, embracing all functions, was \$2.24 per train mile, 8.49 cents per loaded car mile, and 3.7 mills per net ton mile. This was equal to 45 percent of total freight cost. This composite cost per loaded car mile is made up of the following elements: Overhead 20 percent; roadway maintenance 21 percent; power maintenance 16 percent; car maintenance 3 percent, train movement 38 percent; station 2 percent." (p. 101)

* * * * *

DEFENDANTS' EXHIBIT 64-C

For Identification

is the affidavit of Don W. Stuver which is entitled in the court and cause from which this appeal is

taken, and was subscribed and sworn to on May 27, 1938. There are attached to said affidavit four sheets identified as Defendants' Exhibit 64-A, Sheets 1 to 4, inclusive. Said affidavit and attached exhibit are as follows:

State of Washington,
County of Thurston—ss.

Don W. Stuver, being first duly sworn, on oath deposes and says: that he is the same Don W. Stuver who testified in the above cause as [2318] a witness on behalf of Defendants, Lewis County, et al;

That affiant prepared the Exhibit designated as "defs' Ex. 64A" sheets 1, 2, 3, and 4, hereto attached, and made the various computations therein contained; that said computations are accurately made and are based upon the assumption that 37% of the total operating expenses of the Northern Pacific Railway Company for the year 1934, assignable to freight service, was incurred in terminal yardings, i.e., those expenses incident to the origination and termination of freight, and not including those expenses incident to the handling of cars in yards other than origin and destination yards;

That the data from which said computations were made as set forth in said exhibit was taken from other exhibits already received in evidence in the above cause, the source of said data being set forth in said exhibit 64A itself.

Sheet 1,

Defendants' Exhibit 64A.

That the computations appearing on sheet one of said Exhibit "Defs' Ex. 64A" show that for the year 1934 the operating expense incident to one terminal yarding of each ton of revenue freight hauled by the above plaintiff was the equivalent of the operating expense incident to the line haul movement of said ton of freight for a distance of 89.5189 miles.

Sheet 2,

Defendants' Exhibit 64A.

That it was shown by Defendants' Exhibit 65 in the above cause that in 1934 said plaintiff's cost (including a 5.75% return on investment) of hauling intrastate and interstate revenue freight in Washington was \$14,059,050, and from the traffic study made by plaintiff in connection with the 1933 Business Tax Case, as testified to by E. V. Peterson, it appeared that plaintiff's railway operating expenses incident to hauling one ton of intrastate revenue freight in Washington one mile exceeded plaintiff's railway operating expenses incident to hauling one ton of interstate freight in Washington one mile by 14.1685789% as shown by Defendants' Exhibit 61 and lines "A" to "D", sheet 2, of Defendants' Ex- [2319] hibit 64A hereto attached.

That said relation would be the same as between the cost per unit, including a 5.75% return on in-

vestment, of hauling interstate freight and such cost of hauling intrastate freight, since as computed, such return on investment is apportioned in relation to operating costs.

That, based on the assumption that the relation between said railway operating expenses per revenue ton mile of interstate and intrastate freight was the same for 1934 as for 1933, it appears from the calculations contained in lines "E" to "L" of said Sheet 2, of said Exhibit 64A hereto attached, that plaintiff's cost (including a 5.75% return on investment) of hauling interstate freight in Washington in 1934 was \$14.1051598 per thousand revenue net ton miles, or a total of such cost for the year 1934 of \$8,670,427 as set forth in line "N", Sheet 2 of said Exhibit 64A.

Sheets 3 and 4,

Defendants' Exhibit 64A.

That having found by the calculations contained in Sheet one of said Exhibit 64A, that plaintiff's railway operating expense incident to one terminal yarding of one ton of revenue freight was the equivalent of the railway operating expense incident to a line-haul movement of 89.5189 miles of said ton of freight, that number of constructive miles was added to the average miles of haul outside of Washington in 1934 of interstate freight touching Washington, and double that number of constructive miles was added to the average miles

of haul in 1934 of all other revenue freight not touching Washington, after which was computed for 1934 the number of ton miles, actual and constructive, outside of Washington, of (1) the interstate freight touching Washington, and (2) all freight not touching Washington. The total of said actual and constructive ton miles were then divided into the total cost (including a 5.75% return on investment) of hauling all freight outside of Washington in 1934, to wit: \$32,771,779, from which it appeared [2320] that such cost was \$7.402107 per actual and constructive ton mile. Then, multiplying this figure by the total actual and constructive ton miles (in thousands) outside of Washington of interstate freight touching Washington, to wit: 1,847,144, as appears in line "H", it is shown that the total of such cost outside of Washington for the year 1934 of hauling interstate freight touching Washington was \$13,672,758 as shown in line "N". Adding this amount to the cost (including 5.75% return on investment) of hauling interstate freight in Washington, to wit: \$8,670,427 (as shown in line "N", Sheet 2), it is shown that the total of such costs for the system was \$22,343,185, (See Line "P", Sheet 4), of which such costs, those incurred in Washington were 38.805690% (See Line "Q", Sheet 4). Applying this percentage to plaintiff's total system revenues for 1934 from interstate freight touching Washington, to wit: \$14,939,957 (See Line "R", Sheet 4), it is shown that the system revenues from such interstate

freight touching Washington apportionable to Washington in 1934, on the basis of relative cost of service, including a 5.75% return on investment, was \$7,737,838 (as shown in Line "S", Sheet 4) as compared with \$7,654,473, as apportioned by the so-called Turnburke Method. (See Line "T", Sheet 4).

That, if in 1934 the proportion of terminal yardings consisting merely of a transfer to or from connecting lines, was greater per ton as to the movements outside of Washington of interstate freight touching Washington than as to other freight not touching Washington, the cost outside of Washington of hauling the interstate freight touching Washington would be correspondingly less, and the resulting apportionment to Washington of system revenue from said interstate freight would be correspondingly greater, than that shown by said Exhibit 64A.

The papers attached to said affidavit and referred to therein as "Defendants' Exhibit 64-A, Sheets 1 to 4, inclusive," are as follows [2321]

DEFENDANTS' EXHIBIT 64-A

Sheet 1

Northern Pacific Railway Company

COMPUTATION AS TO 1934 FREIGHT MOVEMENTS ON SYSTEM SHOWING MILES OF LINE HAUL, THE FREIGHT OPERATING EXPENSE OF WHICH IS EQUIVALENT TO THE FREIGHT OPERATING EXPENSE OF ONE TERMINAL YARDING. COMPUTATION BASED ON PERCENTAGE RELATION OF TOTAL FREIGHT TERMINAL YARDING EXPENSES TO TOTAL FREIGHT OPERATING EXPENSES AS REPORTED IN VOLUME I, PAGE 98, FREIGHT TRAFFIC REPORT OF THE FEDERAL COORDINATOR OF TRANSPORTATION

(A) Total adjusted system freight operating expense (less foreign line switching expense) (Defs'. Ex. 60, Sheet 2, Col. "F").....	\$28,766,647
(B) Percent of total freight operating expense apportionable to terminal yarding (Freight Traffic Report Vol. I, page 98).....	37%
(C) Total system expense apportionable to terminal yarding (Line "A" \times Line "B").....	\$10,643,659
(D) Total system line haul expense (Line "A" — Line "C").....	\$18,122,988
(E) Total net ton miles of revenue freight hauled on system (in thousands) (Defs'. Ex. 56A, Sheet 1, Line "D-5").....	3,939,247
(F) Line haul expense per thousand net ton miles of revenue freight hauled on system (Line "D" \div Line "E").....	\$4.600622
(G) Total tons of revenue freight hauled on system (Defs'. Ex. 56A, Sheet 1, Line "D-1")	12,922,016
(H) Total tons of revenue freight hauled on system expressed in terms of tons of revenue freight involving one terminal yarding (in thousands) (Line "G" \times 2).....	25,844

(I) Terminal yarding expense per thousand tons of revenue freight hauled on system (Line "C" ÷ Line "H").....	\$411.842555
(J) Miles of line haul (constructive miles) expense on system equivalent to the cost per ton of one terminal yarding (Line "I" ÷ Line "F")	89.5189
	[2322]

DEFENDANTS' EXHIBIT 64A

Sheet 2

Northern Pacific Railway Company

COMPUTATION OF THE COST (INCLUDING 5.75% RETURN ON INVESTMENT) OF HAULING INTERSTATE FREIGHT IN WASHINGTON IN 1934, BASED ON THE 1933 BUSINESS TAX CASE TRAFFIC STUDY

(A) Cost per revenue net ton mile of hauling intrastate freight in Washington in 1933 (Defs'. Ex. 61, Sheet 2, Line "D").....	\$0.01059148843
(B) Cost per revenue net ton mile of hauling interstate freight in Washington in 1933 (Defs'. Ex. 61, Sheet 2, Line "D").....	\$0.00927706076
(C) Amount by which the cost per unit of hauling intrastate freight exceeds the cost per unit of hauling interstate freight in 1933 (Line "A" — Line "B").....	\$0.00131442767
(D) Percentage by which the cost per unit of hauling intrastate freight exceeds the cost per unit of hauling interstate freight in 1933 (Line "C" ÷ Line "B").....	14.1685789%
(E) Revenue net ton miles of intrastate freight hauled in Washington in 1934 (in thousands) (Defs'. Ex. 56A, Sheet 1 Line "A-1")	334,621

(F) Constructive revenue net ton miles to be added to actual revenue net ton miles to make the cost per revenue net ton mile of intrastate freight hauled in Washington equal to the cost per revenue net ton mile of interstate freight hauled in Washington—1934 (in thousands) (Line “E” \times Line “D”)	47,411
(G) Actual plus constructive revenue net ton miles of intrastate freight hauled in Washington—1934 (in thousands) (Line “E” + Line “F”).....	382,032
(H) Revenue net ton miles of interstate freight hauled in Washington in 1934 (in thousands) (Defs'. Ex. 56A, Sheet 1, Line “B-4”)	614,699
(I) Revenue net ton miles of intrastate and interstate freight hauled in Washington expressed in terms of revenue net ton miles of interstate freight hauled in Washington on the basis of cost—1934 (in thousands) (Line “G” + Line “H”).....	996,731
(J) Cost of hauling intrastate and interstate freight in Washington in 1934, including 5.75% return on investment (Defs'. Ex. 65, Sheet 4, Line “J-2”).....	\$14,059,050
(K) Cost per thousand revenue net ton miles of hauling interstate freight in Washington in 1934 (Line “J” \div Line “I”).....	\$14.1051598
(L) Cost per thousand revenue net ton miles of hauling intrastate freight in Washington in 1934 (Line “K” \times Line “D” + Line “K”)	\$16.1036605
(M) Cost of hauling intrastate freight in Washington in 1934 (Line “E” \times Line “L”)	\$5,388,623
(N) Cost of hauling interstate freight in Washington in 1934 (Line “H” \times Line “K”)	\$8,670,427

(O) Cost of hauling intrastate and interstate freight in Washington in 1934 (Line "M" + Line "N").....	\$14,059,050 [2323]
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DEFENDANTS' EXHIBIT 64-A

Sheet 3

Northern Pacific Railway Company

APPORTIONMENT TO WASHINGTON OF 1934 SYSTEM REVENUES FROM WASHINGTON INTERSTATE FREIGHT ON BASIS OF RELATIVE FREIGHT OPERATING EXPENSE INCLUDING 5.75% RETURN ON INVESTMENT

(A) Average miles of haul outside of Washington of interstate freight touching Washington—1934—(Defs'. Ex. 56A, Sheet 1, Line "C-3")	618.7346
(B) Constructive miles of line haul of such freight equivalent to one terminal yarding (see Sheet 1 Line "J").....	89.5189
(C) Total of said actual and constructive miles (Line "A" + Line "B").....	708.2535
(D) Average miles of haul of system revenue freight not touching Washington—1934—(Defs'. Ex. 56A, Sheet 1, Line "D-10").....	204.6582
(E) Constructive miles of line haul of such freight equivalent to two terminal yardings (Line "B" × 2).....	179.0378
(F) Total of said actual and constructive miles (Line "D" + Line "E").....	383.6960
(G) Total tons of revenue interstate freight touching Washington (Defs'. Ex. 56A, Sheet 1, Line "C-1").....	2,608,026
(H) Total actual and constructive ton miles (in thousands) outside of Washington of interstate freight touching Washington 1934—(Line "C" × Line "G").....	1,847,144

(I) Total tons of revenue freight not touching Washington—1934 (Defs'. Ex. 56A, Sheet 1, Line "D-4").....	6,724,632
(J) Total actual and constructive ton miles of interstate freight not touching Washington (in thousands)—1934 (Line "F" × Line "I")	2,580,214
(K) Total actual and constructive ton miles of revenue freight hauled outside Washington—1934—(Line "H" + Line "J").....	4,427,358
(L) Total cost outside of Washington including 5.75% return on investment of hauling system revenue freight—1934—(Defs'. Ex. 65, Sheet 4, Line "J-2").....	\$32,771,779
	[2324]

DEFENDANTS' EXHIBIT 64-A

Sheet 4

Northern Pacific Railway Company

(M) Cost per thousand ton miles, actual and constructive, of hauling revenue freight outside of Washington—1934 (Line "L" ÷ Line "K")	\$7.402107
(N) Total cost outside of Washington including return on investment of hauling interstate freight touching Washington—1934 (Line "H" × Line "M").....	\$13,672,758
(O) Total cost in Washington including return on investment of hauling interstate freight touching Washington,—1934 (Sheet 2, Line "N")	\$8,670,427
(P) Total system cost including return on investment of hauling interstate freight touching Washington—1934 (Line "M" + Line "O")	\$22,343,185

(Q) Percentage of computed system cost including return on investment of hauling interstate freight touching Washington, incurred in Washington—1934. (Line “O” ÷ Line “P”)	38.805690%
(R) Total system revenues for 1934 from interstate (carload and L.C.L.) freight touching Washington (Defs’. Ex. 55A, Line “G”)	\$19,939,957
(S) System revenues from such interstate freight touching Washington apportionable to Washington on basis of relative cost of service including return on investment (Line “R” × Line “Q”)	\$7,737,838
(T) System revenues from interstate freight for 1934 apportionable by Turnburke method (Defs’. Ex. 40A, Line 2)	\$7,654,473
	[2325]

DEFENDANTS’ EXHIBIT 64-D

Northern Pacific Railway Company
for 1934

COMPARATIVE STATISTICS SHOWING RELATIVE PROFIT- ABLENES OF INTERSTATE CARLOAD TRAFFIC HANDLED PARTLY IN STATE OF WASHINGTON WITH SYSTEM IN- TERSTATE CARLOAD FREIGHT TRAFFIC

Washington

Northern Pacific revenue from interstate carload traffic moving from, to or through State of Washington	\$18,485,490
Freight cost per 1,000 net ton miles for State of Washington as developed by Washington Tax Commission	\$11.089590
Net ton miles in Washington in connection with interstate carload traffic from, to or passing through Washington	605,901,715

Applying cost of \$11.089590 per 1,000 net ton miles gives cost of handling above traffic in Wash- ington—605,901,715 x \$11.089590 per thousand ton miles.....		\$6,719,202
Freight cost as developed by Washington Tax Commission for states other than Washing- ton per 1,000 ton miles.....	\$8.684458	
Net ton miles in states other than Washington (on Northern Pa- cific) in connection with inter- state carload traffic from, to or passing through Washington.....	1,586,245,682	
Applying cost of \$8.684458 per 1,000 net ton miles gives cost of handling above traffic in states other than Washington.....		\$13,775,687
Total cost, as above.....		\$20,494,889
Deficiency in net revenue.....		\$ 2,009,399
 System		
System interstate freight revenue (carload)		\$31,608,100
Revenue net ton miles interstate (carload traffic—thousands)	3,939,247	
System average cost per 1,000 net ton miles on basis used by Washington Tax Commission.....	\$9.124	
Revenue net ton miles interstate carload traffic (thousands).....	3,272,409	
Applying above cost per 1,000 net ton miles to 3,272,409 ton miles (thousands) of interstate car- load traffic equals.....		\$29,876,370
Excess net revenue from system interstate carload freight traffic on above basis.....		\$ 1,731,730

DEFS. Ex. 65
SHEET 1

NORTHERN PACIFIC RAILWAY COMPANY

ADJUSTMENT OF TURNBURKE METHOD OF ALLOCATION, BY ALLOWING 5.75% RETURN ON DEPRECIATED REPRODUCTION COST OF PROPERTY USED IN N.P.'S RAILWAY OPERATIONS, INSTEAD OF AVERAGE ANNUAL SYSTEM RETURN ON DEPRECIATED REPRODUCTION COST OF PROPERTY OWNED AND USED.

	<u>1930</u>	<u>1931</u>	<u>1932</u>	<u>1933</u>	<u>1934</u>	<u>1935</u>
(A) 5.75% RETURN ON DEPRECIATED REPRODUCTION COST NEW OF PROPERTY USED IN N.P.'S RAILWAY OPERATIONS (SYSTEM) (LINE "E", DEFS. Ex. 67, SHEET 1)	\$25,361,379	\$25,423,214	\$25,482,336	\$25,367,988	\$25,121,796	\$25,043,527
(B) PERCENTAGE OF SUCH RETURN ASSIGNABLE TO SYSTEM FREIGHT SERVICE (DEFS. Ex. 43-A, 43-B AND 43-C, LINE 33)	69.742529%	70.407169%	70.465560%	71.036051%	71.591594%	72.262857%
(C) 5.75% RETURN ON DEPRECIATED REPRODUCTION COST NEW OF PROPERTY USED IN N.P.'S RAILWAY SYSTEM FREIGHT OPERATIONS (LINE "B" x LINE "A")	\$17,687,667	\$17,899,765	\$17,956,271	\$18,020,417	\$17,985,094	\$18,097,168
(D) 5.75% RETURN ON DEPRECIATED REPRODUCTION COST NEW OF PROPERTY USED IN N.P.'S RAILWAY OPERATIONS IN WASHINGTON (LINE "H", DEFS. Ex. 67, SHEET 2)	\$7,931,121	\$8,044,146	\$7,963,240	\$7,946,902	\$7,928,526	\$7,914,345
(E) PERCENTAGE OF SUCH RETURN ASSIGNABLE TO FREIGHT SERVICE IN WASHINGTON (DEFS. Ex. 43-A, 43-B AND 43-C, LINE 33)	73.176335%	72.596890%	72.318113%	71.801734%	72.772718%	72.819543%
(F) 5.75% RETURN ON DEPRECIATED REPRODUCTION COST NEW OF PROPERTY USED IN N.P.'S RAILWAY FREIGHT OPERATIONS IN WASHINGTON (LINE "E" x LINE "D")	\$5,803,704	\$5,839,800	\$5,758,865	\$5,706,013	\$5,769,804	\$5,763,190

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DEFS¹. Ex. 65
SHEET 2

NORTHERN PACIFIC RAILWAY COMPANY

	1930			1931		
	SYSTEM	WASHINGTON	ALL OTHER STATES	SYSTEM	WASHINGTON	ALL OTHER STATES
(G) FREIGHT OPERATING EXPENSES - DEBIT	\$43,752,571	\$13,299,088	\$30,453,483	\$36,670,058	\$11,168,228	\$25,501,830
(H) HIRE OF EQUIPMENT - FREIGHT'S PROPORTION - CR.	\$1,291,625	\$300,692	\$990,933	\$852,938	\$209,443	\$643,495
(I) 5.75% RETURN ON DEPRECIATED REPRODUCTION COST NEW OF PROPERTY USED IN N.P.'S RAILWAY FREIGHT OPERATIONS (SHEET I, LINES "C" AND "F")	\$17,687,667	\$5,803,704	\$11,883,963	\$17,899,765	\$5,839,800	\$12,059,965
(J) TOTAL ABOVE COSTS (EXCLUDES TAXES) - DEBIT	\$60,148,613	\$18,802,100	\$41,346,513	\$53,716,885	\$16,798,585	\$36,918,300
(K) REVENUE NET TON MILES (IN 1000S)	5,420,866	1,265,374	4,155,492	4,074,528	1,038,944	3,035,584
(L) COST PER 1000 REVENUE NET TON MILES (LINE "J" ÷ LINE "K")	-	\$14.858927	\$9.949848	-	\$16.168903	\$12.161844
(M) INTERSTATE REVENUE NET TON MILES (IN 1000S)	4,552,320	734,250	3,818,070	3,340,792	582,272	2,758,520
(N) COST OF HANDLING INTERSTATE FREIGHT TRAFFIC (LINE "L" x LINE "M")	\$48,899,383	\$10,910,167	\$37,989,216	\$42,963,389	\$9,414,699	\$33,548,690
(O) PERCENT OF TOTAL (COL. "WASHINGTON" AND COL. "ALL OTHER STATES", LINE "N", DIVIDED BY COL. "SYSTEM" LINE "N")	100.000000%	22.311461%	77.688539%	100.000000%	21.913306%	78.086694%
(P) INTERSTATE FREIGHT REVENUE - SYSTEM	\$49,474,320	-	-	\$38,018,023	-	-
(Q) DIVISION OF INTERSTATE FREIGHT REVENUE ON BASIS OF RELATIVE COST (LINE "N" x LINE "F")	-	\$11,038,444	\$38,435,876	-	\$8,331,006	\$29,687,017
(R) DIVISION OF INTERSTATE FREIGHT REVENUE ON BASIS OF RELATIVE COST AS COMPUTED BY TURNBURKE METHOD (DEFS ¹ . Ex. 41, LINE 12)	-	\$10,902,504	\$38,571,816	-	\$8,089,884	\$29,928,139
(S) EXCESS OF APPORTIONMENT TO WASHINGTON OF INTER- STATE FREIGHT REVENUE OVER THAT APPORTIONED BY TURNBURKE METHOD (LINE "Q" - LINE "S")	-	\$135,940	-	-	\$241,122	-
(T) NET RAILWAY OPERATING INCOME (LESS TAXES) AS COMPUTED BY TURNBURKE METHOD (DEFS ¹ . Ex. 40-A, LINE 11 AND LINE 14)	\$21,773,991	\$7,954,102	-	\$13,617,807	\$4,952,779	-
(U) NET RAILWAY OPERATING INCOME (LESS TAXES) AS COMPUTED BY PRESENT METHOD (LINE "S" + LINE "T")	\$21,773,991	\$8,090,042	-	\$13,617,807	\$5,193,901	-
(V) WASHINGTON'S PERCENT OF SYSTEM NET RAILWAY OPERATING INCOME (LESS TAXES) AS COMPUTED BY PRESENT METHOD	-	37.154613%	-	-	38.140510%	-
(W) - - SAME AS COMPUTED BY TURNBURKE METHOD (DEFS ¹ . Ex. 40-A, LINE 15)	-	36.530290%	-	-	36.569872%	-

DEFS¹. Ex. 65
SHEET 3

NORTHERN PACIFIC RAILWAY COMPANY

	1932			1933		
	SYSTEM	WASHINGTON	ALL OTHER STATES	SYSTEM	WASHINGTON	ALL OTHER STATES
(G-1) FREIGHT OPERATING EXPENSES - DEBIT	\$29,196,122	\$8,921,754	\$20,274,368	\$27,699,437	\$8,002,334	\$19,697,103
(H-1) HIRE OF EQUIPMENT - FREIGHT'S PROPORTION - CR.	\$536,120	\$133,013	\$403,107	\$741,576	\$171,974	\$569,602
(I-1) 5.75% RETURN ON DEPRECIATED REPRODUCTION COST NEW OF PROPERTY USED IN N.P.'S RAILWAY FREIGHT OPERATIONS (SHEET 1, LINES "C" AND "F")	\$17,956,271	\$5,758,865	\$12,197,406	\$18,020,417	\$5,706,013	\$12,314,404
(J-1) TOTAL ABOVE COSTS (EXCLUDES TAXES) - DEBIT	\$46,616,273	\$14,547,606	\$32,068,667	\$44,978,278	\$13,536,373	\$31,441,905
(K-1) REVENUE NET TON MILES (IN 1000s)	3,087,635	753,722	2,333,913	3,568,372	839,238	2,729,134
(L-1) COST PER 1000 REVENUE NET TON MILES (LINE "J-1" - LINE "K-1")	-	\$19.301023	\$13.740301	-	\$16.129361	\$11.520836
(M-1) INTERSTATE REVENUE NET TON MILES (IN 1000s)	2,529,186	427,671	2,101,515	2,998,606	504,744	2,493,862
(N-1) COST OF HANDLING INTERSTATE FREIGHT TRAFFIC (LINE "L-1" x LINE "M")	\$37,129,937	\$8,254,488	\$28,875,449	\$36,872,573	\$8,141,198	\$28,731,375
(O-1) PERCENT OF TOTAL (COL. "WASHINGTON" AND COL. "ALL OTHER STATES", LINE "N-1", DIVIDED BY COL. "SYSTEM" LINE "N")	100.000000%	22.231355%	77.768645%	100.000000%	22.079278%	77.920722%
(P-1) INTERSTATE FREIGHT REVENUE - SYSTEM	\$29,227,615	-	-	\$31,550,969	-	-
(Q-1) DIVISION OF INTERSTATE FREIGHT REVENUE ON BASIS OF RELATIVE COST (LINE "N-1" x LINE "P-1")	-	\$6,497,695	\$22,729,920	-	\$6,966,226	\$24,584,743
(R-1) DIVISION OF INTERSTATE FREIGHT REVENUE ON BASIS OF RELATIVE COST AS COMPUTED BY TURNBURKE METHOD (DEFS ¹ . Ex. 41 AND 41-A, LINE 12)	-	\$6,185,330	\$23,042,285	-	\$6,636,087	\$24,914,882
(S-1) EXCESS OF APPORTIONMENT TO WASHINGTON OF INTER- STATE FREIGHT REVENUE OVER THAT APPORTIONED BY TURNBURKE METHOD (LINE "Q-1" - LINE "R-1")	-	\$312,365	-	-	\$330,139	-
(T-1) NET RAILWAY OPERATING INCOME (LESS TAXES) AS COMPUTED BY TURNBURKE METHOD (DEFS ¹ . Ex. 40-A, LINE 11 AND LINE 14)	\$8,667,744	\$3,136,664	-	\$11,859,224	\$3,760,027	-
(U-1) NET RAILWAY OPERATING INCOME (LESS TAXES) AS COMPUTED BY PRESENT METHOD ("T-1" + "S-1")	\$8,667,744	\$3,449,029	-	\$11,859,224	\$4,090,166	-
(V-1) WASHINGTON'S PERCENT OF SYSTEM NET RAILWAY OPERATING INCOME (LESS TAXES) AS COMPUTED BY PRESENT METHOD	-	39.791404%	-	-	34.489322%	-
(W-1) - - SAME AS COMPUTED BY TURNBURKE METHOD (DEFS ¹ . Ex. 40-A, LINE 15)	-	36.187779%	-	-	31.705506%	-

DEFS¹. Ex. 65
 SHEET 4

NORTHERN PACIFIC RAILWAY COMPANY

	1934			1935		
	SYSTEM	WASHINGTON	ALL OTHER STATES	SYSTEM	WASHINGTON	ALL OTHER STATES
(g-2) FREIGHT OPERATING EXPENSES - DEBIT	\$29,746,890	\$8,496,275	\$21,250,615	\$31,863,295	\$9,072,940	\$22,790,355
(h-2) HIRE OF EQUIPMENT - FREIGHT'S PROPORTION - CR.	\$901,155	\$207,029	\$694,126	\$876,443	\$186,695	\$689,748
(i-2) 5.75% RETURN ON DEPRECIATED REPRODUCTION COST NEW OF PROPERTY USED IN N.P.'S RAILWAY FREIGHT OPERATIONS (SHEET 1, LINES "c" AND "f")	\$17,985,094	\$5,769,804	\$12,215,290	\$18,097,168	\$5,763,190	\$12,333,978
(j-2) TOTAL OF ABOVE COSTS (EXCLUDES TAXES) - DEBIT	\$46,830,829	\$14,059,050	\$32,771,779	\$49,084,020	\$14,649,435	\$34,434,585
(k-2) REVENUE NET TON MILES (IN 1000S)	3,939,247	949,320	2,989,927	4,382,753	1,009,475	3,373,278
(L-2) COST PER 1000 REVENUE NET TON MILES (LINE "j-2" - LINE "k-2")	-	\$14.809601	\$10.960729	-	\$14.511934	\$10.208048
(m-2) INTERSTATE REVENUE NET TON MILES (IN 1000S)	3,330,382	614,699	2,715,683	3,757,190	667,632	3,089,558
(n-2) COST OF HANDLING INTERSTATE FREIGHT TRAFFIC (LINE "L-2" x LINE "m-2")	\$38,869,312	\$9,103,447	\$29,765,865	\$41,226,988	\$9,688,632	\$31,538,356
(O-2) PERCENT OF TOTAL (COL. "WASHINGTON" AND COL. "ALL OTHER STATES", LINE "n-2", DIVIDED BY COL. "SYSTEM", LINE "n-2")	100.000000%	23.420654%	76.579346%	100.000000%	23.500703%	76.499297%
(p-2) INTERSTATE FREIGHT REVENUE - SYSTEM	\$34,136,978	-	-	\$36,493,114	-	-
(q-2) DIVISION OF INTERSTATE FREIGHT REVENUE ON BASIS OF RELATIVE COST (LINE "n-2" x LINE "p-2")	-	\$7,995,104	\$26,141,874	-	\$8,576,138	\$27,916,976
(r-2) DIVISION OF INTERSTATE FREIGHT REVENUE ON BASIS OF RELATIVE COST AS COMPUTED BY TURNBURKE METHOD (DEFS ¹ . Ex. 41-A, LINE 12)	-	\$7,654,473	\$26,482,505	-	\$8,234,750	\$28,258,364
(s-2) EXCESS OF APPORTIONMENT TO WASHINGTON OF INTERSTATE FREIGHT REVENUE OVER THAT APPORTIONED BY TURNBURKE METHOD (LINE "q-2" - LINE "s-2")	-	\$340,631	-	-	\$341,388	-
(t-2) NET RAILWAY OPERATING INCOME (LESS TAXES) AS COMPUTED BY TURNBURKE METHOD (DEFS ¹ . Ex. 40-A, LINE 11 AND LINE 14)	\$13,227,801	\$4,509,557	-	\$13,012,412	\$4,372,505	-
(u-2) NET RAILWAY OPERATING INCOME (LESS TAXES) AS COMPUTED BY PRESENT METHOD (LINES "s-2" + LINE "t-2")	\$13,227,801	\$4,850,188	-	\$13,012,412	\$4,713,893	-
(v-2) WASHINGTON'S PERCENT OF SYSTEM NET RAILWAY OPERATING INCOME (LESS TAXES) AS COMPUTED BY PRESENT METHOD	-	36.666624%	-	-	36.226128%	-
(w-2) - - SAME AS COMPUTED BY TURNBURKE METHOD (DEFS ¹ . Ex. 40-A, LINE 15)	-	34.091509%	-	-	33.602571%	-
(x-2) - - COMPUTED BY PRESENT METHOD	ANNUAL AVERAGE 1930-1934			ANNUAL AVERAGE 1931-1935		
(y-2) - - COMPUTED BY TURNBURKE METHOD		37.128851%			36.925029%	
		35.161732%			34.332257%	

DEFS¹. Ex. 66
SHEET 1

NORTHERN PACIFIC RAILWAY COMPANY

COMPUTATION SHOWING AMOUNT OF INTERSTATE FREIGHT REVENUES APPORTIONABLE TO WASHINGTON ON ASSUMPTION THAT INTERSTATE FREIGHT OPERATING RATIO (RELATION BETWEEN INTERSTATE FREIGHT OPERATING EXPENSES AND INTERSTATE FREIGHT OPERATING REVENUES INCLUDED IN ACCT 101) WAS THE SAME FOR WASHINGTON INTERSTATE OPERATIONS AS FOR SYSTEM.

	1930	1931	1932	1933	1934	1935
IN EARLIER EXHIBITS (DEFS ¹ . Exs. 57 TO 64, INCL.) THE N.P.'S OPERATING EXPENSES AND OPERATING REVENUES APPORTIONABLE TO INTERSTATE FREIGHT SERVICE BOTH FOR WASHINGTON AND FOR THE SYSTEM HAVE BEEN COMPUTED BY ELIMINATING FROM OPERATING EXPENSES AND OPERATING REVENUES INCIDENT TO ALL FREIGHT SERVICE, BOTH LOCAL AND INTERSTATE, THOSE ITEMS INCIDENT TO FOREIGN LINE SWITCHING AND INTRASTATE FREIGHT SERVICE. AFTER SUCH ELIMINATION THE FIGURES WITH RESPECT TO INTERSTATE FREIGHT SERVICE ARE SHOWN TO BE AS FOLLOWS:						
(A) ADJUSTED SYSTEM RAILWAY OPERATING EXPENSE INCIDENT TO INTERSTATE FREIGHT SERVICE (DEFS ¹ . Ex. 61, SHEET 3, LINE "K") SERIES A, P. 2, LINE "K"	\$34,791,442	\$29,944,740	\$23,829,944	\$22,406,547	\$23,018,492	\$24,400,072
(B) SYSTEM RAILWAY OPERATING REVENUES INCIDENT TO INTERSTATE FREIGHT SERVICE (ACCT. 101) (DEFS ¹ . Exs. 41 AND 41-A, LINE 11)	\$49,474,320	\$38,018,023	\$29,227,615	\$31,550,969	\$34,136,978	\$36,493,114
(C) SYSTEM INTERSTATE FREIGHT OPERATING RATIO (LINE "A" + LINE "B")	70.322224%	78.764590%	81.532291%	71.016985%	67.429788%	66.862126%
(D) INTERSTATE FREIGHT OPERATING EXPENSES IN WASHINGTON AS COMPUTED (DEFS ¹ . Ex. 61, SHEET 2, LINE "E-1")	\$7,391,875	\$6,136,653	\$5,027,535	\$4,682,540	\$5,083,036	\$5,393,194
(E) INTERSTATE FREIGHT OPERATING REVENUES APPORTIONABLE TO WASHINGTON IF INTERSTATE FREIGHT OPERATING RATIO SAME AS FOR SYSTEM. (LINE "D" + LINE "C")	\$10,511,435	\$7,791,132	\$6,166,311	\$6,593,549	\$7,538,265	\$8,066,142
(F) RAILWAY OPERATING REVENUE FROM INTERSTATE FREIGHT (ACCT. 101) APPORTIONED TO WASHINGTON UNDER TURNBURKE METHOD (SEE LINE 2, DEFS ¹ . Ex. 40-A)	\$10,902,504	\$8,089,884	\$6,185,330	\$6,636,087	\$7,654,473	\$8,234,750

DEFS¹. EX. 66
SHEET 2

NORTHERN PACIFIC RAILWAY COMPANY

PROPORTION OF SYSTEM NET RAILWAY OPERATING INCOME (LESS TAXES) EARNED IN WASHINGTON ON ASSUMPTION THAT INTERSTATE FREIGHT OPERATING RATIO IN WASHINGTON IS SAME AS INTERSTATE FREIGHT OPERATING RATIO FOR SYSTEM.

	1930	1931	1932	1933	1934	1935	ANNUAL AVER- AGE 1930-34	ANNUAL AVER- AGE 1931-35
(G) EXCESS OF AMOUNT APPORTIONABLE TO WASHINGTON BY TURNBURKE METHOD OVER AMOUNT APPORTIONABLE TO WASHINGTON BY PRESENT METHOD. (LINE "F" - LINE "E")	\$391,069	\$298,752	\$19,019	\$42,538	\$116,208	\$168,608		
(H) NET RAILWAY OPERATING INCOME (LESS TAXES) IN WASHINGTON AS SHOWN BY TURNBURKE METHOD (SEE LINE 11, DEFS ¹ . EX. 40-A)	\$7,954,102	\$4,952,779	\$3,136,664	\$3,760,027	\$4,509,557	\$4,372,505		
(I) NET RAILWAY OPERATING INCOME (LESS TAXES) IN WASHINGTON AS SHOWN BY PRESENT METHOD. (LINE "H" - LINE "G")	\$7,563,033	\$4,654,027	\$3,117,645	\$3,717,489	\$4,393,349	\$4,203,897		
(J) NET RAILWAY OPERATING INCOME (LESS TAXES) FOR SYSTEM (SEE LINE 14, DEFS ¹ . EX. 40-A)	\$21,773,991	\$13,617,807	\$8,667,744	\$11,859,224	\$13,227,801	\$13,012,412		
(K) PERCENT OF SYSTEM NET RAILWAY OPERATING INCOME (LESS TAXES) EARNED IN WASHINGTON AS SHOWN BY PRESENT METHOD (LINE "I" + LINE "J")	34.734252%	34.176039	35.968356%	31.346815%	33.212996%	32.306824%	33.907037%	33.263923%
(L) PERCENT OF SYSTEM NET RAILWAY OPERATING INCOME (LESS TAXES) EARNED IN WASHINGTON AS SHOWN BY TURNBURKE METHOD (DEFS ¹ . EX. 40-A, LINE 15)	36.530290%	36.369872%	36.187779%	31.705506%	34.091509%	33.602571%	35.161730%	34.332262%

NORTHERN PACIFIC RAILWAY COMPANY

PERCENTAGE OF COMMERCIAL SYSTEM VALUE IN WASHINGTON COMPUTED ON THE BASIS OF RELATIVE COST OF SERVICE INCLUDING 5.75% RETURN ON DEPRECIATED REPRODUCTION COST OF PROPERTY USED IN N.P.'S RAILWAY OPERATIONS, AND ADDING TO WASHINGTON'S PROPORTION, VALUE REFLECTED BY CAPITALIZING WASHINGTON'S JOINT FACILITY RENT INCOME AT 5%.

	1930	1931	1932	1933	1934	1935
	SYSTEM COST OF OPERATION, PLUS SUCH 5.75% RETURN ON PROPERTY USED.					
(A) DEPRECIATED REPRODUCTION COST OF N.P.'S SYSTEM OPERATING PROPERTY (DEFS'. EXS. 43-A, 43-B, AND 43-C, LINE 29)	\$476,651,866	\$477,476,653	\$479,183,133	\$478,677,858	\$474,065,831	\$472,164,615
(B) SYSTEM NET JOINT FACILITY RENT INCOME (DEFS'. EXS. 43-A, 43-B, AND 43-C, LINE "20")	\$2,437,105	\$2,419,941	\$2,466,395	\$2,567,989	\$2,545,359	\$2,508,374
(C) SYSTEM NET JOINT FACILITY RENT INCOME CAPITALIZED AT 5.75% AS REPRESENTATIVE OF DEPRECIATED REPRODUCTION COST OF PROPERTY USED BY TENANT LINES (LINE "B" CAPITALIZED AT 6.8488%)(SEE LINE "B" DEFS'. Ex. 62)	\$35,584,409	\$35,333,796	\$36,012,075	\$37,495,459	\$37,165,036	\$36,625,015
(D) DEPRECIATED REPRODUCTION COST OF PROPERTY USED BY N.P. IN ITS RAILWAY OPERATIONS (LINE "A" - LINE "C")	\$441,067,457	\$442,142,857	\$443,171,058	\$441,182,399	\$436,900,795	\$435,539,600
(E) 5.75% RETURN ON DEPRECIATED REPRODUCTION COST OF PROPERTY USED IN N.P.'S RAILWAY OPERATIONS (LINE "D"x.0575)	\$25,361,379	\$25,423,214	\$25,482,336	\$25,367,988	\$25,121,796	\$25,043,527
(F) SYSTEM RAILWAY OPERATING EXPENSES, FREIGHT AND PASSENGER	\$62,734,420	\$52,082,847	\$41,433,180	\$38,993,492	\$41,550,814	\$44,093,600
(G) SYSTEM NET JOINT EQUIPMENT RENT INCOME (CR) (DEFS'. EXS. 43-A, 43-B AND 43-C, LINE 18)	* \$1,421,760	* \$ 922,217	* \$573,561	*\$729,897	*\$842,055	* \$767,601
(H) TOTAL SYSTEM COST OF OPERATIONS INCLUDING 5.75% RETURN ON DEPRECIATED REPRODUCTION COST OF PROPERTY USED IN N.P.'S RAILWAY OPERATIONS (SUM OF LINES "C", "F" AND "G")	\$86,674,039	\$76,583,844	\$66,341,955	\$63,631,583	\$65,830,555	\$68,369,526

NOTE:* INDICATES RED FIGURE.

DEFS'. EX. 67
SHEET 2

NORTHERN PACIFIC RAILWAY COMPANY

	1930	1931	1932	1933	1934	1935
	WASHINGTON COST OF OPERATION, PLUS 5.75% RETURN ON PROPERTY USED.					
(I) DEPRECIATED REPRODUCTION COST OF N.P.'S OPERATING PROPERTY IN WASHINGTON (DEFS'. EXS. 43-A, 43-B AND 43-C LINE 29)	\$156,586,546	\$158,449,404	\$158,615,857	\$157,992,418	\$156,901,317	\$156,313,054
(J) WASHINGTON'S JOINT FACILITY RENT INCOME (CR) (DEFS'. EX. 40-A, LINE 9)	\$1,277,576	\$1,270,536	\$1,378,302	\$1,355,064	\$1,302,225	\$1,278,826
(K) WASHINGTON'S NET JOINT FACILITY RENT INCOME CAPITALIZED AT 5.75% AS REPRESENTATIVE OF DEPRECIATED REPRODUCTION COST OF PROPERTY USED BY TENANT LINES (LINE "J" CAPITALIZED AT 6.8488%); (SEE DEFS'. EX. 62 LINE "N")	\$18,654,012	\$18,551,221	\$20,124,723	\$19,785,422	\$19,013,915	\$18,672,264
(L) DEPRECIATED REPRODUCTION COST OF PROPERTY USED IN N.P.'S RAILWAY OPERATIONS (LINE "I" - LINE "K")	\$137,932,534	\$139,898,183	\$138,491,134	\$138,206,996	\$137,887,402	\$137,640,790
(M) 5.75% RETURN ON DEPRECIATED REPRODUCTION COST OF PROPERTY USED IN N.P.'S RAILWAY OPERATIONS (LINE "L" x .0575)	\$7,931,121	\$8,044,146	\$7,963,240	\$7,946,902	\$7,928,526	\$7,914,345
(N) TOTAL OPERATING EXPENSES IN WASHINGTON, FREIGHT AND PASSENGER, (DEFS'. EX. 40-A LINE "5")	\$18,174,029	\$15,383,894	\$12,336,819	\$11,145,042	\$11,675,083	\$12,459,485
(O) WASHINGTON'S PROPORTION OF NET JOINT EQUIPMENT RENT INCOME (DEFS'. EX. 40-A, LINE 8)	* \$331,776	* \$228,753	* \$144,643	* \$172,281	* \$196,635	* \$159,055
(P) TOTAL COST OF N.P.'S RAILWAY OPERATIONS IN WASHINGTON INCLUDING 5.75% RETURN ON DEPRECIATED REPRODUCTION COST OF PROPERTY USED IN N.P.'S RAILWAY OPERATIONS (SUM OF LINES "M" "N" AND "O")	\$25,773,374	\$23,199,287	\$20,155,416	\$18,919,663	\$19,406,974	\$20,214,775

NOTE: * INDICATES RED FIGURE.

DEFS¹. Ex. 67
SHEET 3

NORTHERN PACIFIC RAILWAY COMPANY

PERCENTAGE OF SYSTEM NET RAILWAY OPERATING INCOME (LESS TAXES) EARNED IN WASHINGTON, COMPUTED BY APPORTIONING TO WASHINGTON SYSTEM OPERATING REVENUES LESS UNCOLLECTIBLE REVENUES, ON BASIS OF RELATIVE COST OF SERVICE INCLUDING 5.75% RETURN ON DEPRECIATED REPRODUCTION COST OF PROPERTY USED IN N.P.'S RAILWAY OPERATIONS.

	1930	1931	1932	1933	1934	1935	ANNUAL AVER- AGE 1930-34	ANNUAL AVER- AGE 1931-35
(q) PERCENTAGE OF COST OF OPERATION IN WASHINGTON INCLUDING 5.75% RETURN ON DEPRECIATED REPRODUCTION COST OF PROPERTY USED IN N.P.'S RAILWAY OPERATIONS OF TOTAL FOR SYSTEM (LINE "P" + LINE "H")	29.735979%	30.292665%	30.381100%	29.733133%	29.480192%	29.566937%		
(R) SYSTEM RAILWAY OPERATING REVENUES	\$80,642,412	\$62,312,087	\$47,084,176	\$47,578,677	\$51,407,775	\$53,845,654		
(S) UNCOLLECTIBLE RAILWAY REVENUES (SYSTEM)	\$18,396	\$10,072	\$23,209	\$23,848	\$16,575	\$15,616		
(T) SYSTEM RAILWAY OPERATING REVENUES LESS UNCOLLECTIBLE RAILWAY REVENUES (LINE "R" - LINE "S")	\$80,624,016	\$62,302,015	\$47,060,967	\$47,554,829	\$51,391,200	\$53,830,038		
(U) WASHINGTON'S APPORTIONMENT OF SYSTEM RAILWAY OPERATING REVENUES (LESS UNCOLLECTIBLE) ON BASIS OF RELATIVE COST OF OPERATION PLUS 5.75% RETURN ON PROPERTY USED (LINE "T" x LINE "Q")	\$23,974,340	\$18,872,941	\$14,297,639	\$14,139,541	\$15,150,224	\$15,915,893		
(V) OPERATING EXPENSES IN WASHINGTON (DEFS ¹ . Ex. 40-A, LINE 5)	\$18,174,029	\$15,383,894	\$12,336,819	\$11,145,042	\$11,675,083	\$12,459,485		
(W) NET EQUIPMENT RENTS (CR) (DEFS ¹ . Ex. 40-A, LINE 8)	\$331,776	\$228,753	\$144,643	\$172,281	\$196,635	\$159,055		
(X) NET JOINT FACILITY RENTS, (CR) (DEFS ¹ . Ex. 40-A, LINE 9)	\$1,277,576	\$1,270,536	\$1,378,302	\$1,355,064	\$1,302,225	\$1,278,826		
(Y) INDICATED NET RAILWAY OPERATING INCOME (LESS TAXES) EARNED IN WASHINGTON (SUM OF LINES "U", "W" AND "X" LESS LINE "V")	\$7,409,663	\$4,988,336	\$3,483,765	\$4,521,844	\$4,974,001	\$4,894,289	\$5,075,522	\$4,572,447
(Z) SYSTEM NET RAILWAY OPERATING INCOME (LESS TAXES) (DEFS ¹ . Ex. 40-A, LINE 14)	\$21,773,991	\$13,617,807	\$8,667,744	\$11,859,224	\$13,227,801	\$13,012,412	\$13,829,313	\$12,076,998
(ZZ) INDICATED PERCENTAGE OF SYSTEM NET RAILWAY OPERATING INCOME (LESS TAXES) EARNED IN WASHINGTON (LINE "Y" + LINE "Z")	34.029880%	36.630979%	40.192292%	38.129341%	37.602629%	37.612466%	36.701187%	37.860791%
(ZZZ) PERCENTAGE OF SYSTEM NET RAILWAY OPERATING INCOME (LESS TAXES) EARNED IN WASHINGTON INDICATED BY TURNBURKE METHOD (DEFS ¹ . Ex. 40-A LINE 15)	36.530290%	36.369872%	36.187779%	31.705506%	34.091509%	33.602571%	35.161732%	34.332257%

NORTHERN PACIFIC RAILWAY COMPANY

DEFS¹. Ex. 67
SHEET 4

	1930	1935 ASSESSMENT 1931	1932	1933	1934	ANNUAL AVER- AGE 1930-34
(q-1) PERCENTAGE OF COST OF OPERATION IN WASHINGTON INCLUDING 5.75% RETURN ON DEPRECIATED REPRODUCTION COSTS OF PROPERTY USED IN N.P.'S RAILWAY OPERATIONS, OF TOTAL FOR SYSTEM (LINE "p" + LINE "h")	29.735979%	30.292665%	30.381100%	29.733133%	29.480192%	-
(r-1) COMMERCIAL SYSTEM VALUE (1935 ASSESSMENT) OF N.P. PROPERTY OWNED AND USED AS REFLECTED BY MARKET VALUE OF STOCK AND BONDS (SEE P.76, OP. OF T.C.)	\$231,284,705	\$231,284,705	\$231,284,705	\$231,284,705	\$231,284,705	\$231,284,705
(s-1) COMMERCIAL SYSTEM VALUE OF N.P. OPERATING PROPERTY NOT USED IN N.P.'S RAILWAY OPERATIONS, COMPUTED BY CAPITALIZING SYSTEM NET JOINT FACILITY INCOME INCLUDING TAXES CONTRIBUTED BY TENANT LINES AT 5.9555% WHICH IS EQUIVALENT OF CAPITALIZING NET JOINT FACILITY RENTS (NOT INCLUDING TAXES CONTRIBUTED) AT 5% (SEE LINE "d", DEFS ¹ . Ex. 62, SHEET 2)(LINE "b" + 5.9555%)	\$40,921,921	\$40,633,717	\$41,413,735	\$43,119,621	\$42,739,636	-
(t-1) PORTION OF SAID INDICATED COMMERCIAL SYSTEM VALUE (LINE "r-1") FOR 1935 ASSESSMENT REPRESENTED BY PROPERTY USED IN N.P. RAILWAY OPERATIONS (LINE "r-1" - LINE "s-1")	\$190,362,784	\$190,650,988	\$189,870,970	\$188,165,084	\$188,545,069	-
(u-1) PORTION OF SAID INDICATED COMMERCIAL SYSTEM VALUE (LINE "t-1") ALLOCATED TO WASH. ON RELATIVE COST OF OPERATIONS BASIS (LINE "t-1" x LINE "q-1")	\$56,606,237	\$57,753,265	\$57,684,889	\$55,947,375	\$55,583,448	-
(v-1) COMMERCIAL VALUE OF N.P.'S OPERATING PROPERTY IN WASH. NOT USED IN N.P.'S RAILWAY OPERATIONS COMPUTED BY CAPITALIZING WASH.'S PROPORTION OF REPORTED JOINT FACILITY RENTS NET AT 5.9555% (SEE LINE "s-1") (LINE "j" + 5.9555%)	\$21,452,036	\$21,333,826	\$23,143,346	\$22,753,153	\$21,865,922	-
(w-1) WASH.'S PROPORTION OF SAID INDICATED COMMERCIAL SYSTEM VALUE FOR 1935 ASSESS. (LINE "u-1" + LINE "v-1")	\$78,058,273	\$79,087,091	\$80,828,235	\$78,700,528	\$77,449,370	\$78,824,699
(x-1) PERCENTAGE OF SAID INDICATED COMMERCIAL SYSTEM VALUE APPORTIONABLE TO WASH. (1935 ASSESS.) ON THIS BASIS (LINE "w-1" + LINE "r-1")	33.486594%					34.081242%

DEFS¹. Ex. 67
SHEET 5

NORTHERN PACIFIC RAILWAY COMPANY

	<u>1931</u>	<u>1936 ASSESSMENT</u> <u>1932</u>	<u>1933</u>	<u>1934</u>	<u>1935</u>	<u>ANNUAL AVERAGE</u> <u>1931 - 1935</u>
(q) PERCENTAGE OF COST OF OPERATION IN WASHINGTON INCLUDING 5.75% RETURN ON DEPRECIATED REPRODUCTION COST OF PROPERTY USED IN N.P.'S RAILWAY OPERATIONS, OF TOTAL FOR SYSTEM (LINE "P" + LINE "H")	30.292665%	30.381100%	29.733133%	29.480192%	29.566937%	-
(r) COMMERCIAL SYSTEM VALUE OF N.P. PROPERTY OWNED AND USED (1936 ASSESSMENT) AS REFLECTED BY MARKET VALUE OF STOCK AND BONDS. (SEE P. 76, OPINION OF TAX COM.)	\$244,205,050	\$244,205,050	\$244,205,050	\$244,205,050	\$244,205,050	\$244,205,050
(s) COMMERCIAL SYSTEM VALUE OF N.P. OPERATING PROPERTY NOT USED IN N.P.'S RAILWAY OPERATIONS, COMPUTED BY CAPITALIZING SYSTEM NET JOINT FACILITY INCOME INCLUDING TAXES CONTRIBUTED BY TENANT LINES AT 5.9555%, WHICH IS EQUIVALENT OF CAPITALIZING AT 5% SYSTEM NET JOINT FACILITY RENTS NOT INCLUDING TAXES CONTRIBUTED (SEE LINE "d", DEFS ¹ . Ex. 62)(LINE "d" + 5.9555%)	\$40,633,717	\$41,413,735	\$43,119,621	\$42,739,636	\$42,118,613	-
(t) PORTION OF SAID INDICATED COMMERCIAL SYSTEM VALUE (LINE "r") FOR 1936 ASSESSMENT REPRESENTED BY PROPERTY USED IN N.P. RAILWAY OPERATIONS (LINE "r" - LINE "s")	\$203,571,333	\$202,791,315	\$201,085,429	\$201,465,414	\$202,086,437	-
(u) PORTION OF SAID INDICATED COMMERCIAL SYSTEM VALUE OF PROPERTY (LINE "t") ALLOCATED TO WASHINGTON ON RELATIVE COST OF OPERATIONS BASIS (LINE "t" x LINE "q")	\$61,667,182	\$61,610,232	\$59,788,998	\$59,392,391	\$59,750,770	-
(v) COMMERCIAL VALUE OF N.P.'S OPERATING PROPERTY IN WASHINGTON NOT USED IN N.P.'S RAILWAY OPERATIONS COMPUTED BY CAPITALIZING WASHINGTON'S PROPORTION OF REPORTED JOINT FACILITY RENTS NET AT 5.9555% (SEE LINE "s" (LINE "j" + 5.9555%))	\$21,333,826	\$23,143,346	\$22,753,153	\$21,865,922	\$21,473,025	-
(w) WASHINGTON'S PROPORTION OF COMMERCIAL SYSTEM VALUE FOR 1936 ASSESSMENT (LINE "u" + LINE "v")	\$83,001,008	\$84,753,578	\$82,542,151	\$81,258,313	\$81,223,795	\$82,555,769

Defs'l. Ex. 87
 SHEET 6

NORTHERN PACIFIC RAILWAY COMPANY

	<u>1936 ASSESSMENT</u>					<u>ANNUAL AVERAGE</u>
	<u>1931</u>	<u>1932</u>	<u>1933</u>	<u>1934</u>	<u>1935</u>	<u>1931- 1935</u>
(x) PERCENTAGE OF COMMERCIAL SYSTEM VALUE APPORTIONABLE TO WASHINGTON FOR 1936 ASSESSMENT ON THIS BASIS (LINE "w" ÷ LINE "r")	-	-	-	-	33.260489%	33.805922%

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NORTHERN PACIFIC RAILWAY COMPANY

	ANNUAL AVERAGE 1930 TO 1934 INC.	ANNUAL AVERAGE 1931 TO 1935 INC.
(H) TOTAL SYSTEM COST OF OPERATIONS INCLUDING 5.75% RETURN ON DEPRECIATED REPRODUCTION COST OF PROPERTY USED IN N.P.'S RAILWAY OPERATIONS (ANNUAL AVERAGE OF VALUES SHOWN ON SHEET 1, LINE "H")	\$71,512,395	\$68,151,493
(P) TOTAL COST OF N.P.'S RAILWAY OPERATIONS IN WASHINGTON INCLUDING 5.75% RETURN ON DEPRECIATED REPRODUCTION COST OF PROPERTY USED IN N.P.'S RAILWAY OPERATIONS (ANNUAL AVERAGE OF VALUES SHOWN ON SHEET 2, LINE "P")	\$21,490,943	\$20,379,223
PERCENTAGE OF COST OF OPERATION IN WASHINGTON INCLUDING A 5.75% RETURN ON DEPRECIATED REPRODUCTION COST OF PROPERTY USED IN N.P.'S RAILWAY OPERATIONS OF TOTAL FOR SYSTEM (LINE "P" + LINE "H")	(Q-1) 29.926509%	(Q) 29.902827%

NORTHERN PACIFIC RAILWAY COMPANY

DEFS¹. Ex. 67 /-
SHEET 4

	1935 ASSESSMENT					ANNUAL AVERAGE 1930-1934
	1930	1931	1932	1933	1934	
(Q-1) PERCENTAGE OF COST OF OPERATION IN WASHINGTON INCLUDING 5.75% RETURN ON DEPRECIATED REPRODUCTION COSTS OF PROPERTY USED IN N.P.'S RAILWAY OPERATIONS, OF TOTAL FOR SYSTEM (LINE "P" + LINE "H")	29.735979%	30.292665%	30.381100%	29.733133%	29.480192%	29.926509%
(R-1) COMMERCIAL SYSTEM VALUE (1935 ASSESSMENT) OF N.P. PROPERTY OWNED AND USED AS REFLECTED BY MARKET VALUE OF STOCK AND BONDS (SEE P.76, OP. OF T.C.)					1935 ASSESSMENT \$231,284,705	1935 ASSESSMENT \$231,284,705
(S-1) COMMERCIAL SYSTEM VALUE OF N.P. OPERATING PROPERTY NOT USED IN N.P.'S RAILWAY OPERATIONS, COMPUTED BY CAPITALIZING SYSTEM NET JOINT FACILITY INCOME INCLUDING TAXES CONTRIBUTED BY TENANT LINES AT 5.9555% WHICH IS EQUIVALENT OF CAPITALIZING NET JOINT FACILITY RENTS (NOT INCLUDING TAXES CONTRIBUTED) AT 5% (SEE LINE "D", DEFS ¹ . Ex. 62, SHEET 2)(LINE "B" + 5.9555%)	\$40,921,921	\$40,633,717	\$41,413,735	\$43,119,621	\$42,739,636	ANNUAL AVERAGE 1930 - 1934 \$41,765,726
(T-1) PORTION OF SAID INDICATED COMMERCIAL SYSTEM VALUE (LINE "R-1") FOR 1935 ASSESSMENT REPRESENTED BY PROPERTY USED IN N.P. RAILWAY OPERATIONS (LINE "R-1" - LINE "S-1")					\$188,545,069	\$189,518,979
(U-1) PORTION OF SAID INDICATED COMMERCIAL SYSTEM VALUE (LINE "T-1") ALLOCATED TO WASH. ON RELATIVE COST OF OPERATIONS BASIS (LINE "T-1" X LINE "Q-1")					\$55,583,448	\$56,716,414
(V-1) COMMERCIAL VALUE OF N.P.'S OPERATING PROPERTY IN WASH. NOT USED IN N.P.'S RAILWAY OPERATIONS COMPUTED BY CAPITALIZING WASH.'S PROPORTION OF REPORTED JOINT FACILITY RENTS NET AT 5.9555% (SEE LINE "S-1") (LINE "J" + 5.9555%)	\$21,452,036	\$21,333,826	\$23,143,346	\$22,753,153	\$21,865,922	\$22,109,657
(W-1) WASH.'S PROPORTION OF SAID INDICATED COMMERCIAL SYSTEM VALUE FOR 1935 ASSESS. (LN."U-1"+LN"V-1")					\$77,449,370	\$78,826,071
(X-1) PERCENTAGE OF SAID INDICATED COMMERCIAL SYSTEM VALUE APPORTIONABLE TO WASH. (1935 ASSESS.) ON THIS BASIS (LINE "W-1" + LINE "R-1")					33.486594%	34.081835%

DEFS'. Ex. 67
 SHEET 5

NORTHERN PACIFIC RAILWAY COMPANY

	<u>1931</u>	<u>1936 ASSESSMENT</u> <u>1932</u>	<u>1933</u>	<u>1934</u>	<u>1935</u>	<u>ANNUAL AVERAGE</u> <u>1931 - 1935</u>
(q) PERCENTAGE OF COST OF OPERATION IN WASHINGTON INCLUDING 5.75% RETURN ON DEPRECIATED REPRODUCTION COST OF PROPERTY USED IN N.P.'S RAILWAY OPERATIONS, OF TOTAL FOR SYSTEM (LINE "p" + LINE "h")	30.292665%	30.381100%	29.733133%	29.480192%	29.566937%	29.902827%
(r) COMMERCIAL SYSTEM VALUE OF N.P. PROPERTY OWNED AND USED (1936 ASSESSMENT) AS REFLECTED BY MARKET VALUE OF STOCK AND BONDS. (SEE P.76, OPINION OF TAX COM.)					<u>1936 ASSESSMENT</u> \$244,205,050	<u>1936 ASSESSMENT</u> \$244,205,050
(s) COMMERCIAL SYSTEM VALUE OF N.P. OPERATING PROPERTY NOT USED IN N.P.'S RAILWAY OPERATIONS, COMPUTED BY CAPITALIZING SYSTEM NET JOINT FACILITY INCOME INCLUDING TAXES CONTRIBUTED BY TENANT LINES AT 5.9555%, WHICH IS EQUIVALENT OF CAPITALIZING AT 5% SYSTEM NET JOINT FACILITY RENTS NOT INCLUDING TAXES CONTRIBUTED (SEE LINE "d", DEFS'. Ex. 62)(LINE "d" + 5.9555%)	\$40,633,717	\$41,413,735	\$43,119,621	\$42,739,636	<u>1935</u> \$42,118,613	<u>ANNUAL AVERAGE</u> <u>1931 - 1935</u> \$42,005,064
(t) PORTION OF SAID INDICATED COMMERCIAL SYSTEM VALUE (LINE "r") FOR 1936 ASSESSMENT REPRESENTED BY PROPERTY USED IN N.P. RAILWAY OPERATIONS (LINE "r" - LINE "s")					\$202,086,437	\$202,199,986
(u) PORTION OF SAID INDICATED COMMERCIAL SYSTEM VALUE OF PROPERTY (LINE "t") ALLOCATED TO WASHINGTON ON RELATIVE COST OF OPERATIONS BASIS (LINE "t" x LINE "q")					\$59,750,770	\$60,463,512
(v) COMMERCIAL VALUE OF N.P.'S OPERATING PROPERTY IN WASHINGTON NOT USED IN N.P.'S RAILWAY OPERATIONS COMPUTED BY CAPITALIZING WASHINGTON'S PROPORTION OF REPORTED JOINT FACILITY RENTS NET AT 5.9555% (SEE LINE "s" (LINE "j" + 5.9555%))	\$21,333,826	\$23,143,346	\$22,753,153	\$21,865,922	\$21,473,025	\$22,113,854
(w) WASHINGTON'S PROPORTION OF COMMERCIAL SYSTEM VALUE FOR 1936 ASSESSMENT (LINE "u" + LINE "v")					\$81,223,795	\$82,577,366

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DEFS. Ex. 67
SHEET 6

NORTHERN PACIFIC RAILWAY COMPANY

	<u>1936 ASSESSMENT</u>					<u>ANNUAL AVERAGE</u>
	<u>1931</u>	<u>1932</u>	<u>1933</u>	<u>1934</u>	<u>1935</u>	<u>1931 - 1935</u>
(x) PERCENTAGE OF COMMERCIAL SYSTEM VALUE APPORTIONABLE TO WASHINGTON FOR 1936 ASSESSMENT ON THIS BASIS (LINE "W" + LINE "R")	-	-	-	-	33.260489%	33.814766%



DEFS¹. Ex. 68
SHEET I

NORTHERN PACIFIC RAILWAY COMPANY

STATISTICS WITH RELATION TO OPERATION OF NORTHERN PACIFIC RAILWAY IN STATES OF OREGON AND WISCONSIN, YEARS 1926 TO 1935 INCLUSIVE.

	1926			1927		
	OREGON	WISCONSIN	SYSTEM	OREGON	WISCONSIN	SYSTEM
(A) AVERAGE MILES OF ROAD OPERATED DURING YEAR.	54.74	112.35	6,682.35	54.74	103.17	6,669.95
(B) TOTAL MILEAGE OF ALL TRACKS OPERATED AT END OF YEAR.	75.10	186.45	10,367.63	75.74	177.11	10,364.03
(C) TOTAL GROSS OPERATING REVENUES.	\$230,120	\$803,800	\$97,351,042	\$240,180	\$795,215	\$95,574,816
(D) TOTAL OPERATING EXPENSES.	\$364,201	\$961,333	\$68,260,944	\$372,895	\$1,029,779	\$67,854,738
(E) STATE TAXES ACCRUED	\$8,953	\$83,911	\$7,666,745	\$16,296	\$92,554	\$7,699,485
(F) NET REVENUE FROM RAILWAY OPERATIONS (LINE "D" - LINE "C")	* \$134,081	* \$157,533	\$29,090,098	* \$132,715	* \$234,564	\$27,720,078
(G) OPERATING REVENUE PER MILE OF ROAD OPERATED (LINE "C" + LINE "A")	\$4,204	\$7,154	\$14,568	\$4,388	\$7,708	\$14,329
(H) OPERATING EXPENSE PER MILE OF ROAD OPERATED (LINE "D" + LINE "A")	\$6,653	\$8,557	\$10,215	\$6,812	\$9,981	\$10,173
	1928			1929		
	OREGON	WISCONSIN	SYSTEM	OREGON	WISCONSIN	SYSTEM
(A) AVERAGE MILES OF ROAD OPERATED DURING YEAR.	54.74	103.17	6,729.84	54.74	102.95	6,789.52
(B) TOTAL MILEAGE OF ALL TRACKS OPERATED AT END OF YEAR.	75.80	176.42	10,469.82	75.94	184.39	10,503.08
(C) TOTAL GROSS OPERATING REVENUES.	\$213,383	\$788,665	\$101,272,724	\$207,706	\$766,505	\$96,522,348
(D) TOTAL OPERATING EXPENSES.	\$405,807	\$1,066,874	\$70,801,966	\$403,705	\$1,081,751	\$70,551,665
(E) STATE TAXES ACCRUED.	\$36,404	\$96,180	\$8,238,611	\$46,155	\$10,846	\$8,230,216
(F) NET REVENUE FROM RAILWAY OPERATIONS (LINE "D" - LINE "C")	* \$192,424	* \$278,209	\$30,470,758	* \$195,999	* \$315,246	\$25,970,683
(G) OPERATING REVENUE PER MILE OF ROAD OPERATED (LINE "C" + LINE "A")	\$3,898	\$7,644	\$15,048	\$3,794	\$7,445	\$14,216
(H) OPERATING EXPENSE PER MILE OF ROAD OPERATED (LINE "D" + LINE "A")	\$7,413	\$10,341	\$10,521	\$7,375	\$10,508	\$10,391

* INDICATES RED FIGURE

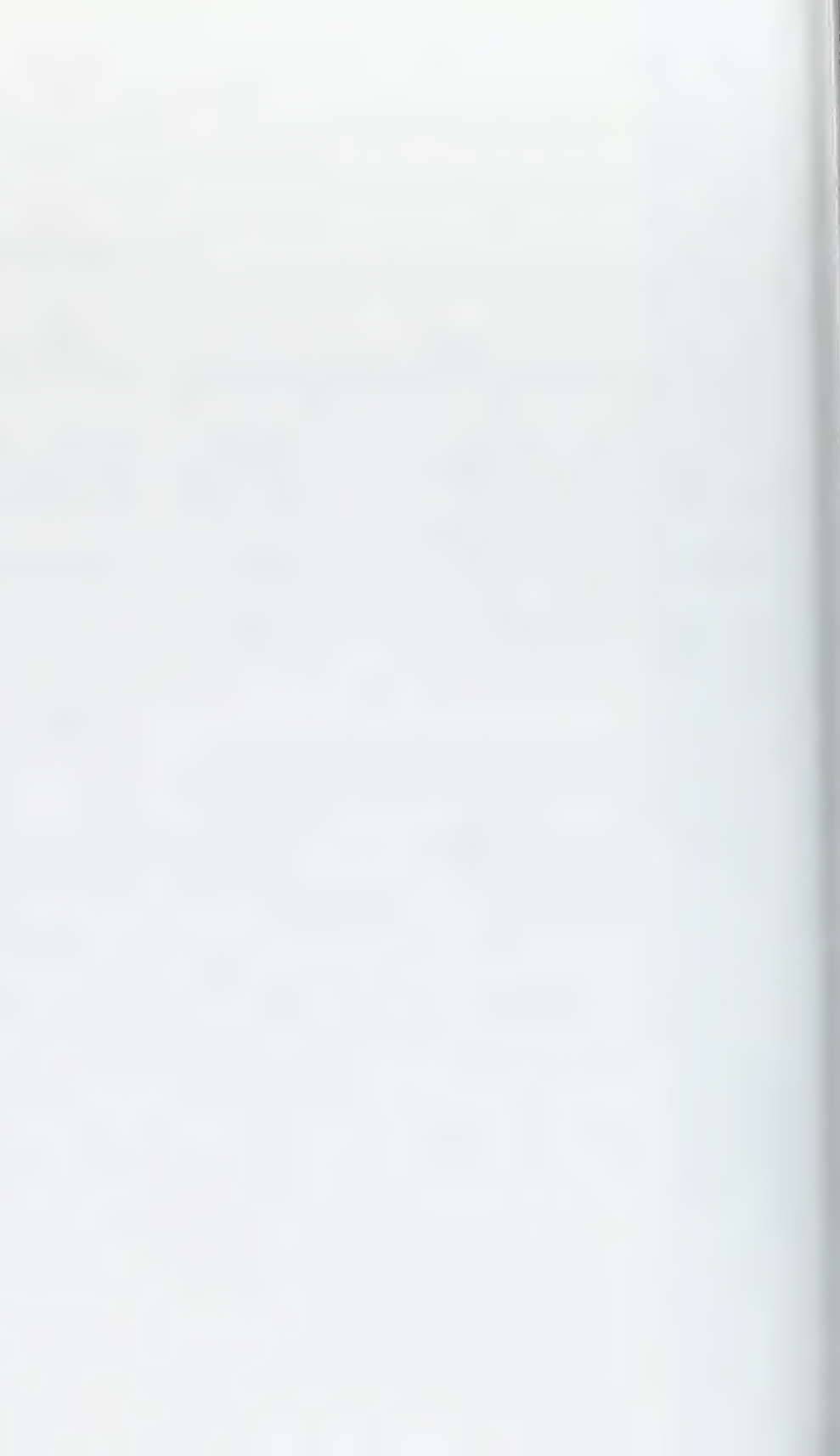
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DEFS'. Ex. 68
SHEET 2

NORTHERN PACIFIC RAILWAY COMPANY

	1930			1931		
	OREGON	WISCONSIN	SYSTEM	OREGON	WISCONSIN	SYSTEM
(A) AVERAGE MILES OF ROAD OPERATED DURING YEAR.	54.74	103.00	6,789.22	54.74	103.00	6,780.70
(B) TOTAL MILEAGE OF ALL TRACKS OPERATED AT END OF YEAR.	76.21	184.53	10,551.58	77.87	185.34	10,523.28
(C) TOTAL GROSS OPERATING REVENUES.	\$167,854	\$642,449	\$80,642,412	\$158,359	\$395,733	\$62,312,087
(D) TOTAL OPERATING EXPENSES.	\$389,865	\$931,470	\$62,734,420	\$319,769	\$682,222	\$52,082,847
(E) STATE TAXES ACCRUED.	\$13,613	\$91,966	\$7,617,195	\$21,352	\$102,710	\$7,560,467
(F) NET REVENUE FROM RAILWAY OPERATIONS (LINE "D" - LINE "C")	* \$222,011	* \$289,021	\$17,907,992	* \$161,410	* \$286,489	\$10,229,240
(G) OPERATING REVENUE PER MILE OF ROAD OPERATED (LINE "C" + LINE "A")	\$3,066	\$6,237	\$11,878	\$2,893	\$3,842	\$9,190
(H) OPERATING EXPENSE PER MILE OF ROAD OPERATED (LINE "D" + LINE "A")	\$7,122	\$9,043	\$9,240	\$5,842	\$6,624	\$7,681
	1932			1933		
(A) AVERAGE MILES OF ROAD OPERATED DURING YEAR.	54.74	103.00	6,735.58	54.74	103.00	6,710.59
(B) TOTAL MILEAGE OF ALL TRACKS OPERATED AT END OF YEAR.	77.92	185.24	10,521.30	78.08	184.95	10,542.97
(C) TOTAL GROSS OPERATING REVENUES.	\$121,592	\$298,845	\$47,084,176	\$94,591	\$314,166	\$47,578,676
(D) TOTAL OPERATING EXPENSES.	\$259,880	\$514,433	\$41,433,179	\$204,691	\$525,565	\$38,993,492
(E) STATE TAXES ACCRUED.	\$20,644	\$92,113	\$6,677,355	* \$2,681	\$84,315	\$5,779,453
(F) NET REVENUE FROM RAILWAY OPERATIONS (LINE "D" - LINE "C")	* \$138,288	* \$215,588	\$5,650,997	* \$110,100	* \$211,399	\$8,585,184
(G) OPERATING REVENUE PER MILE OF ROAD OPERATED (LINE "C" + LINE "A")	\$2,221	\$2,901	\$6,990	\$1,728	\$3,050	\$7,059
(H) OPERATING EXPENSE PER MILE OF ROAD OPERATED (LINE "D" + LINE "A")	\$4,748	\$4,994	\$6,151	\$3,739	\$5,103	\$5,785

* INDICATES RED FIGURE



NORTHERN PACIFIC RAILWAY COMPANY

DEFS¹. Ex. 68
SHEET 3

	1934			1935		
	OREGON	WISCONSIN	SYSTEM	OREGON	WISCONSIN	SYSTEM
(A) AVERAGE MILES OF ROAD OPERATED DURING YEAR.	54.73	102.95	6,724.96	54.73	99.80	6,725.07
(B) TOTAL MILEAGE OF ALL TRACKS OPERATED AT END OF YEAR.	78.08	184.82	10,498.09	80.01	184.28	10,493.10
(C) TOTAL GROSS OPERATING REVENUES	\$129,854	\$316,111	\$51,407,775	\$133,746	\$356,389	\$53,845,654
(D) TOTAL OPERATING EXPENSES.	\$203,054	\$510,970	\$41,550,813	\$245,567	\$546,696	\$44,093,600
(E) STATE TAXES ACCRUED.	\$20,634	\$80,257	\$5,236,120	\$35,460	\$83,544	\$5,202,029
(F) NET REVENUE FROM RAILWAY OPERATIONS (LINE "D" - LINE "C")	* \$73,200	* \$194,859	\$9,856,962	* \$111,821	* \$190,307	\$9,752,054
(G) OPERATING REVENUE PER MILE OF ROAD OPERATED (LINE "C" + LINE "A")	\$2,373	\$3,071	\$7,644	\$2,444	\$3,571	\$8,007
(H) OPERATING EXPENSE PER MILE OF ROAD OPERATED (LINE "D" + LINE "A")	\$3,710	\$4,963	\$6,179	\$4,487	\$5,478	\$6,557

* INDICATES RED FIGURE

DEFS². EX. 00

NORTHERN PACIFIC RAILWAY COMPANY

OPERATING STATISTICS OF SPOKANE, PORTLAND & SEATTLE RAILWAY COMPANY AS TO (A) SYSTEM, (B) WASHINGTON AND (C) OREGON

	<u>1930</u>	<u>1931</u>	<u>1932</u>	<u>1933</u>	<u>1934</u>	<u>1935</u>	<u>ANNUAL AVER- AGE 1930-35</u>
	<u>SYSTEM</u>						
(A) RAILWAY OPERATING REVENUES	\$7,836,350	\$6,127,728	\$4,867,498	\$4,608,094	\$5,671,051	\$6,215,141	\$5,887,644
(B) RAILWAY OPERATING EXPENSES	\$5,490,032	\$4,105,993	\$3,554,520	\$2,823,396	\$3,253,037	\$3,532,745	\$3,793,287
(C) NET REVENUE FROM RAILWAY OPERATIONS	\$2,346,318	\$2,021,735	\$1,312,978	\$1,784,698	\$2,418,014	\$2,682,396	\$2,094,357
(D) RAILWAY TAX ACCRUALS	\$913,557	\$885,525	\$792,673	\$411,854	\$566,297	\$599,855	\$694,960
(E) NET REVENUE FROM RAILWAY OPERATIONS LESS TAX ACCRUALS	\$1,432,761	\$1,136,210	\$520,305	\$1,372,844	\$1,851,717	\$2,082,541	\$1,399,397
	<u>OREGON</u>						
(F) RAILWAY OPERATING REVENUES	\$1,202,127	\$947,060	\$1,094,048	\$777,294	\$1,122,238	\$1,341,800	\$1,080,761
(G) RAILWAY OPERATING EXPENSES	\$1,606,732	\$1,338,236	\$1,355,320	\$938,133	\$1,086,051	\$1,204,931	\$1,254,900
(H) NET REVENUE FROM RAILWAY OPERATIONS	* \$404,605	* \$391,176	* \$261,272	* \$160,839	\$36,187	\$136,869	* \$174,139
(H-1) RAILWAY TAX ACCRUALS	\$322,604	\$422,938	\$386,625	\$2,920	\$297,452	\$247,952	\$280,082
(I) NET REVENUE FROM RAILWAY OPERATIONS LESS TAX ACCRUALS	* \$727,209	* \$814,114	* \$647,897	* \$163,759	* \$261,265	* \$111,083	* \$454,221
	<u>WASHINGTON</u>						
(J) RAILWAY OPERATING REVENUES	\$6,634,223	\$5,180,668	\$3,773,450	\$3,830,800	\$4,548,813	\$4,873,341	\$4,806,883
(K) RAILWAY OPERATING EXPENSES	\$3,883,300	\$2,767,757	\$2,199,200	\$1,885,263	\$2,166,986	\$2,327,814	\$2,538,387
(L) NET REVENUE FROM RAILWAY OPERATIONS	\$2,750,923	\$2,412,911	\$1,574,250	\$1,945,537	\$2,381,827	\$2,545,527	\$2,268,496
(M) RAILWAY TAX ACCRUALS	\$590,953	\$462,587	\$406,048	\$408,934	\$268,845	\$351,903	\$414,878
(N) NET REVENUE FROM RAILWAY OPERATIONS, LESS RAILWAY TAX ACCRUALS	\$2,159,970	\$1,950,324	\$1,168,202	\$1,536,603	\$2,112,982	\$2,193,624	\$1,853,618

* INDICATES RED FIGURE

DEFS', Ex. 69A

NORTHERN PACIFIC RAILWAY COMPANY

MILES OF SINGLE TRACK ROAD OWNED AND OPERATED BY THE SPOKANE, PORTLAND AND SEATTLE RAILWAY COMPANY IN THE STATES OF OREGON AND WASHINGTON EXPRESSED IN TERMS OF PERCENTAGES OF TOTAL SYSTEM MILES OF ROAD OWNED AND OPERATED BY THE COMPANY FOR THE YEAR 1935.

MILES OF SINGLE TRACK ROAD OWNED AND OPERATED IN 1935 - DEPARTMENT OF PUBLIC SERVICE REPORT PAGE 401

	LINE OWNED		TOTAL LINE OWNED	LINE OPERAT- ED UNDER LEASE	LINE OPERATED UNDER TRACKAGE RIGHTS	TOTAL LINE OPERATED	PERCENTAGE OF TOTAL LINE OWNED	PERCENTAGE OF TOTAL LINE OPERATED
	MAIN LINE	BRANCH LINE						
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)
OREGON	82.94	3.54	86.48	35.29	6.23	128.00	17.49	23.15
WASHINGTON	365.00	43.10	408.10	-	16.75	424.85	82.51	76.85
SYSTEM	447.94	46.64	494.58	35.29	22.98	552.85	100.00	100.00

DEFENDANTS' EXHIBIT 72,

so far as material, is as follows:

Northern Pacific Railway Company

COMPARISON OF TRACK MILEAGE BETWEEN
1917 AND 1935-1936.

	All Track Mileage		
	1917	1935	1936
Main Line			
Main Track (A).....	708.015	575,637	575.644
2nd Main Track (A).....	222.258	216.985	216.985
3rd Main Track.....	—	2.434	—
Sidings (A)	553.581	566.697	567.334
Prairie Line Branch			
Main Track	39.495	39.518	39.518
2nd Main Track.....	4.812	4.813	4.813
Sidings	38.895	41.154	40.757
Grays Harbor Branch			
Main Track	55.288	55.261	55.261
2nd Main Track.....	1.350	1.331	1.331
Sidings	25.185	23.694	23.789
Palouse & Lewis Branch			
Main Track	84.231	84.245	84.245
Sidings	14.132	14.165	14.168
Everett Branch			
Main Track	11.373	6.108	6.108
Sidings	13.440	10.845	10.845
Buckley Branch			
Main Track	33.546	33.539	33.539
2nd Main Track.....	1.528	1.259	1.259
Sidings	15.109	10.043	10.177
Olympia Branch			
Main Track	39.914	40.037	40.252
Sidings	20.097	19.457	19.457
South Bend Branch			
Main Track	56.677	56.666	56.667
Sidings	14.890	14.486	13.976

Washington Cent. Branch			
Main Track	108.904	108.817	108.817
Sidings	12.024	12.175	12.514
Wallula Branch			
Main Track	13.386	13.258	13.258
Sidings	2.814	3.091	3.091
Dayton Branch			
Main Track	86.197	86.204	86.204
Sidings	15.973	17.281	17.366
Bellingham Branch			
Main Track	22.748	22.475	22.475
Sidings	6.568	6.454	6.454
Sumas Branch			
Main Track	(B)	126.733	126.733
2nd Main Track.....	(3)	2.314	2.314
Sidings	(B)	52.255	52.135
			[2348]
All Other Branch Lines			
Main Track	589.944	574.175	568.441
2nd Main Track.....	—	.401	—
Sidings	100.492	109.932	109.872
	<hr/>	<hr/>	<hr/>
	2,912.866		
Less Hartford & Eastern			
Sold by N. P. in 1925.....	46.661		
	<hr/>	<hr/>	<hr/>
Grand Totals.....	2,866.205	2,953.939	2,945.799
(A) Includes Sumas Branch shown below.			
(B) Included in Main Line mileage totals.			
			[2349]

Defendants' Exhibit 73, Sheet 1:

NORTHERN PACIFIC RAILWAY COMPANY

TONS OF REVENUE FREIGHT
FOR YEAR 1934

From Statement from Northern Pacific Railway Company January 5, 1938

	Originating in State	All other car- ried in State	Total Car- ried in State	Terminating in State	Intrastate	Interstate
Wisconsin	151,370	1,237,975	1,389,345	136,341	22,661	1,366,684
Minnesota	1,438,680	3,622,510	5,061,190	2,480,687	766,331	4,294,859
North Dakota	1,132,250	1,963,138	3,095,388	1,169,518	564,593	2,530,795
Montana	1,295,733	2,044,023	3,339,756	1,437,687	1,210,578	2,129,178
Idaho	344,408	1,465,052	1,809,460	110,062	19,952	1,789,508
Washington	4,492,173	1,705,211	6,197,384	4,254,205	3,589,358	2,608,026
Oregon	151,217	410,041	561,258	110,950	6,228	555,030
Manitoba	1,717	36,405	38,122	30,155	---	38,122
Total System	9,007,548	3,914,468	12,922,016	9,729,605	6,179,701	6,742,315

Defendants' Exhibit 73, Sheet 2:

NORTHERN PACIFIC RAILWAY COMPANY

TONS OF REVENUE FREIGHT
FOR YEAR 1935

FROM STATEMENT FROM NORTHERN PACIFIC RAILWAY COMPANY JANUARY 5, 1938.

	<u>ORIGINATING IN STATE</u>	<u>ALL OTHER CARRIED IN STATE</u>	<u>TOTAL CARRIED IN STATE</u>	<u>TERMINATING IN STATE</u>	<u>INTRASTATE</u>	<u>INTERSTATE</u>
WISCONSIN	177,080	1,471,132	1,648,212	177,230	30,905	1,617,307
MINNESOTA	1,556,294	3,956,539	5,512,833	2,557,268	758,806	4,754,027
NORTH DAKOTA	1,159,091	2,178,457	3,337,548	1,229,000	597,915	2,739,633
MONTANA	1,326,518	2,434,099	3,760,617	1,476,976	1,251,454	2,509,163
IDAHO	390,953	1,680,360	2,071,313	144,040	23,371	2,047,942
WASHINGTON	4,772,826	1,715,421	6,488,247	4,303,188	3,700,829	2,787,418
OREGON	158,272	481,963	640,235	167,305	8,973	631,262
MANITOBA	2,274	29,939	32,213	18,156	- -	32,213
TOTAL SYSTEM	9,545,844	4,195,979	13,741,823	10,073,163	6,372,253	7,369,570

Defendants' Exhibit 74, Sheet 1:

NORTHERN PACIFIC RAILWAY COMPANY

REVENUE FREIGHT CARRIED 1930 TO 1934, INC.
FIVE YEAR AVERAGE

	ORIGINATING ON N.P.		TERMINATING ON N.P.		TOTAL REVENUE FREIGHT CARRIED*	
	CARLOADS	TONS	CARLOADS	TONS	CARLOADS	TONS
PRODUCTS OF AGRICULTURE						
SYSTEM	100,841	3,032,510	88,207	2,822,037	123,555	3,619,324
WASHINGTON	47,162	1,086,758	41,410	1,097,704	69,354	1,743,418
PERCENT WASHINGTON OF SYSTEM	46.77	35.84	46.95	38.90	56.13	48.17
ANIMALS AND PRODUCTS						
SYSTEM	30,253	366,022	19,744	227,971	32,955	401,073
WASHINGTON	3,666	54,547	4,286	54,974	7,818	108,420
PERCENT WASHINGTON OF SYSTEM	12.12	14.90	21.71	24.11	23.72	27.03
PRODUCTS OF MINES						
SYSTEM	53,414	2,282,348	73,046	3,058,305	95,720	3,997,373
WASHINGTON	13,102	652,559	14,858	706,538	16,811	797,450
PERCENT WASHINGTON OF SYSTEM	24.53	28.59	20.34	23.10	17.56	19.95
PRODUCTS OF FORESTS						
SYSTEM	96,925	3,246,338	85,287	3,002,081	113,553	3,731,455
WASHINGTON	83,868	2,843,121	72,054	2,566,379	98,616	3,273,596
PERCENT WASHINGTON OF SYSTEM	86.53	87.58	84.48	85.49	86.85	87.73
MANUFACTURES AND MISC.						
SYSTEM	37,882	1,041,844	64,546	1,683,118	86,493	2,284,364
WASHINGTON	15,162	420,347	20,293	540,649	32,803	866,757
PERCENT WASHINGTON OF SYSTEM	40.02	40.35	31.44	32.12	37.93	37.94
TOTALS						
SYSTEM	319,315	9,969,062	330,830	10,793,512	452,276	14,033,589
WASHINGTON	162,960	5,057,332	152,901	4,966,244	225,402	6,789,641
PERCENT WASHINGTON OF SYSTEM	51.03	50.73	46.22	46.01	49.84	48.38
L. C. L. FREIGHT						
SYSTEM		199,759		232,658		267,013
WASHINGTON		39,372		44,591		74,634
PERCENT WASHINGTON OF SYSTEM		19.71		19.17		27.95
GRAND TOTAL						
SYSTEM		10,168,821		11,026,170		14,300,602
WASHINGTON		5,096,704		5,010,835		6,864,275
PERCENT WASHINGTON OF SYSTEM		50.12		45.44		48.00

* ORIGINATING, RECEIVED FROM CONNECTING CARRIERS, TERMINATING AND DELIVERED TO CONNECTING CARRIERS.

Defendants' Exhibit 74, Sheet 2:

NORTHERN PACIFIC RAILWAY COMPANY

REVENUE FREIGHT CARRIED 1931 TO 1935 INCLUSIVE.
FIVE YEAR AVERAGE

	ORIGINATING ON N.P.		TERMINATING ON N.P.		TOTAL REVENUE FREIGHT CARRIED*	
	CARLOADS	TONS	CARLOADS	TONS	CARLOADS	TONS
PRODUCTS OF AGRICULTURE						
SYSTEM	95,418	2,864,757	82,800	2,628,322	117,006	3,410,012
WASHINGTON	45,479	1,079,509	38,090	1,016,368	66,013	1,682,816
PERCENT WASHINGTON OF SYSTEM	47.66	37.68	46.00	38.67	56.42	49.35
ANIMALS AND PRODUCTS						
SYSTEM	29,533	358,630	18,789	217,644	32,353	395,221
WASHINGTON	3,498	53,028	4,070	53,048	7,461	104,935
PERCENT WASHINGTON OF SYSTEM	11.84	14.79	21.66	24.37	23.06	26.55
PRODUCTS OF MINES						
SYSTEM	48,633	2,026,358	67,436	2,789,203	87,953	3,619,013
WASHINGTON	11,340	563,640	12,738	604,975	14,561	689,665
PERCENT WASHINGTON OF SYSTEM	23.32	27.82	18.89	21.69	16.56	19.06
PRODUCTS OF FORESTS						
SYSTEM	81,942	2,809,857	71,616	2,590,407	96,888	3,243,733
WASHINGTON	70,041	2,438,454	59,356	2,187,418	83,688	2,839,276
PERCENT WASHINGTON OF SYSTEM	85.48	86.78	82.88	84.44	86.38	87.53
MANUFACTURES AND MISC.						
SYSTEM	36,106	987,630	62,861	1,621,788	84,663	2,218,334
WASHINGTON	13,705	378,552	18,616	487,852	30,939	808,761
PERCENT WASHINGTON OF SYSTEM	37.96	38.33	29.61	30.08	36.54	36.46
TOTALS						
SYSTEM	291,632	9,047,232	303,502	9,847,364	418,863	12,886,313
WASHINGTON	144,063	4,513,183	132,870	4,349,661	202,662	6,125,453
PERCENT WASHINGTON OF SYSTEM	49.40	49.88	43.78	44.17	48.38	47.53
L.C.L. FREIGHT						
SYSTEM		163,247		196,192		225,555
WASHINGTON		29,436		34,786		61,183
PERCENT WASHINGTON OF SYSTEM		18.03		17.73		27.13
GRAND TOTAL						
SYSTEM		9,210,479		10,043,556		13,111,868
WASHINGTON		4,542,619		4,384,447		6,186,636
PERCENT WASHINGTON OF SYSTEM		49.32		43.65		47.18

*ORIGINATING, RECEIVED FROM CONNECTING CARRIERS, TERMINATING AND DELIVERED TO CONNECTING CARRIERS.

Defendants' Exhibit 75, Sheet 1:

NORTHERN PACIFIC RAILWAY COMPANY

REVENUE FREIGHT CARRIED, FOR THE YEAR 1934 CLASSIFIED AS TO PRINCIPAL COMMODITIES.

REFERENCES:

SYSTEM - ANNUAL REPORT TO W. D. P. S. PGS. 512 TO 519 INCLUSIVE. WASHINGTON - ANNUAL REPORT TO W. D. P. S. PGS. 908 TO 911 INCLUSIVE.

	SYSTEM				WASHINGTON					
	TOTAL REVENUE FREIGHT CARRIED		AVG. REV. PER TON	TOTAL REVENUE	TOTAL REVENUE FREIGHT CARRIED		REVENUE FREIGHT ORIGINATING ON N.P.		REVENUE FREIGHT TERMINATING ON N.P.	
	CAR- LOADS	TONS			CARLOADS	TONS	CARLOADS	TONS	CARLOADS	TONS
PRODUCTS OF AGRICULTURE										
WHEAT	29,222	1,195,088	\$4.73	\$3.74	20,066	793,747	10,829	423,509	12,714	496,230
FLOUR, WHEAT	8,515	231,604	444,293	1.92	4,994	142,032	3,444	96,365	2,211	59,200
MILL PRODUCTS, N.O.S.	6,890	177,315	228,449	1.29	4,665	126,682	3,539	96,619	4,091	112,018
HAY AND ALFALFA	10,434	152,805	635,084	4.16	3,636	57,135	3,264	50,826	2,738	38,127
APPLES, FRESH	8,526	160,773	1,505,516	9.36	8,311	156,890	7,921	149,610	3,222	64,913
BERRIES, FRESH	457	4,246	112,653	26.53	422	3,940	349	3,170	85	983
FRUITS, FRESH, DOMESTIC N.O.S.	4,221	73,244	765,323	10.45	4,146	72,179	3,473	62,288	1,457	29,809
POTATOES, OTHER THAN SWEET	9,934	176,431	966,968	5.48	5,149	89,583	4,866	84,533	1,456	25,995
VEGETABLES, FRESH N.O.S.	3,779	42,678	606,275	14.21	3,465	38,975	2,322	25,674	632	7,421
BEANS AND PEAS, DRIED	954	33,512	311,634	9.30	823	28,526	286	10,152	121	3,733
FRUITS, DRIED AND EVAPORATED	330	10,311	95,093	9.22	280	8,783	111	3,963	40	791
PRODUCTS OF AGRICULTURE, N.O.S.	2,953	78,721	389,930	4.95	1,109	23,604	379	6,729	394	9,587
ANIMALS AND PRODUCTS										
SHEEP AND GOATS	5,391	53,262	426,684	8.01	1,539	15,898	955	9,931	685	7,195
EGGS	820	11,840	216,459	18.28	603	9,453	409	6,784	25	405
ANIMAL PRODUCTS, N.O.S.	979	20,866	274,256	13.14	709	15,518	652	14,333	145	3,576
PRODUCTS OF MINES										
BITUMINOUS COAL	55,558	2,206,195	3,458,755	1.57	9,770	458,847	7,828	385,286	8,661	407,157
COKE	6,779	196,730	158,423	.81	238	7,405	140	3,881	222	6,658
IRON ORE	6,591	281,255	198,514	.71	-	-	-	-	-	-
GRAVEL AND SAND	3,293	183,953	125,969	.68	855	45,616	823	44,018	713	37,627
PRODUCTS OF FORESTS										
Logs	47,289	1,882,712	742,647	.39	42,854	1,714,698	42,819	1,713,379	42,828	1,713,653

Defendants' Exhibit 75, Sheet 2:

NORTHERN PACIFIC RAILWAY COMPANY

	SYSTEM				WASHINGTON					
	TOTAL REVENUE		FREIGHT CARRIED		TOTAL REVENUE		REVENUE FREIGHT		REVENUE FREIGHT	
	CAR-LOADS	TONS	TOTAL REVENUE	AVG. REV. PER TON	CARLOADS	TON	ORIGINATING ON N.P.	TERMINATING ON N.P.	CARLOADS	TONS
PRODUCTS OF FORESTS - CONTINUED										
POST, POLES AND PILING	1,894	54,875	\$214,983	\$3.92	918	28,703	538	16,382	197	5,707
WOOD (FUEL)	3,595	117,788	94,194	.80	2,945	100,656	2,721	93,459	2,903	99,405
LUMBER, SHINGLES & LATH	28,155	794,568	4,388,260	5.52	24,684	705,747	14,991	421,556	5,202	176,920
BOX, CRATE & COOPERAGE MAT'Ls.	2,428	58,108	258,615	4.45	1,891	45,660	1,279	29,267	751	19,510
VENEER & BUILT-UP WOOD	1,579	41,542	346,651	8.34	1,579	41,542	1,538	40,574	287	7,513
MANUFACTURERS AND MISC.										
PETROLEUM OILS, ETC.	21,518	593,917	2,792,247	4.70	4,994	149,868	1,644	50,856	3,307	101,326
IRON AND STEEL PIPE	268	7,286	71,731	9.85	124	3,430	13	288	91	2,567
IRON & STEEL, NAILS & WIRE	362	10,945	70,726	6.46	175	6,059	47	1,397	147	5,016
IRON AND STEEL, N.O.S. 5TH CL.	1,948	65,037	408,586	6.28	1,145	42,088	446	14,340	820	30,714
MACHINERY AND BOILERS	891	21,111	253,525	12.01	518	13,464	152	4,661	330	8,513
CEMENT	4,821	158,068	373,924	2.37	1,905	66,639	1,026	36,015	1,641	58,179
AUTOMOBILES	4,060	23,882	777,937	32.57	2,029	12,109	7	40	1,388	8,306
AUTOTRUCKS	998	6,877	146,943	21.37	715	5,040	26	206	517	3,627
AUTOS & TRUCKS, K.D. & PARTS	293	6,580	117,553	17.87	276	6,326	93	2,769	156	2,998
AUTO AND TRUCK TIRES	313	4,953	49,005	9.89	201	3,392	-	-	142	2,378
BEVERAGES	3,390	59,083	422,453	7.15	828	19,146	255	6,139	595	13,706
CANNED FOOD PRODUCTS, N.O.S.	3,769	108,422	816,114	7.53	2,895	87,399	2,000	59,333	915	23,490
PAPER BAGS & WRAPPING PAPER	1,325	34,192	128,556	3.76	677	17,610	45	1,133	147	3,304
BUILDING WOODWORK (MILLWORK)	877	20,011	152,033	7.60	775	17,846	754	17,354	58	1,318
MANUFACTURERS, N.O.S.	18,793	443,455	2,117,600	4.78	8,904	206,096	4,703	115,364	5,258	108,105

Defendants' Exhibit 75, Sheet 3:

NORTHERN PACIFIC RAILWAY COMPANY

REVENUE FREIGHT CARRIED, FOR THE YEAR 1935 CLASSIFIED AS TO PRINCIPAL COMMODITIES.

REFERENCES:

SYSTEM - ANNUAL REPORT TO W.D.P.S. PGS. 512 TO 519 INCLUSIVE. WASHINGTON - ANNUAL REPORT TO W.D.P.S. PGS. 908 TO 911 INCLUSIVE.

	SYSTEM				WASHINGTON							
	TOTAL REVENUE FREIGHT CARRIED				TOTAL REVENUE		REVENUE FREIGHT		REVENUE FREIGHT		REVENUE FREIGHT	
	CAR-LOADS	TONS	TOTAL REVENUE	AVG. REV. PER TON	CARLOADS	TONS	CARLOADS	TONS	ORIGINATING ON N.P. CARLOADS	TONS	TERMINATING ON N.P. CARLOADS	TONS
PRODUCTS OF AGRICULTURE												
WHEAT	27,540	1,129,865	\$4,752,800	\$4.21	16,636	671,105	11,313	454,651	8,590	338,015		
FLOUR, WHEAT	9,390	258,568	487,569	1.89	6,093	174,020	4,145	116,068	2,836	75,866		
MILL PRODUCTS, N.O.S.	7,033	180,836	221,795	1.23	4,899	130,141	3,727	99,741	4,155	111,656		
HAY AND ALFALFA	10,703	173,740	679,006	3.91	5,774	99,245	5,015	82,785	3,553	48,899		
APPLES, FRESH	7,699	143,554	1,353,646	9.43	7,553	141,198	7,265	135,907	2,450	48,008		
BERRIES, FRESH	164	1,575	23,210	14.74	139	1,354	70	657	73	776		
FRUITS, FRESH, DOMESTIC N.O.S.	4,150	78,163	653,523	8.36	4,084	77,258	3,703	71,491	1,675	36,044		
POTATOES, OTHER THAN SWEET	7,970	141,208	610,201	4.32	4,071	71,040	3,628	63,765	1,728	30,366		
VEGETABLES, FRESH, N.O.S.	3,548	40,455	464,926	11.49	3,153	35,887	1,742	19,177	974	11,721		
BEANS AND PEAS, DRIED	1,036	35,626	347,596	9.76	974	32,398	283	10,128	101	3,023		
FRUITS, DRIED AND EVAPORATED	328	10,703	97,990	9.16	284	9,331	82	2,915	21	420		
PRODUCTS OF AGRICULTURE, N.O.S.	2,550	71,231	339,529	4.77	1,034	22,474	326	6,118	351	8,815		
ANIMALS AND PRODUCTS												
SHEEP AND GOATS	5,427	55,096	396,633	7.20	1,470	15,628	863	9,284	514	5,464		
EGGS	711	10,515	196,937	18.73	552	8,790	440	7,126	13	346		
ANIMAL PRODUCTS, N.O.S.	1,053	23,035	304,306	13.21	766	17,077	658	14,807	156	3,739		
PRODUCTS OF MINES												
BITUMINOUS COAL	60,088	2,375,167	3,717,093	1.56	11,166	530,430	8,809	428,926	9,672	460,351		
COKE	6,909	207,254	198,190	.96	519	16,258	200	5,042	504	15,691		
IRON ORE	10,526	439,483	328,964	.75	1	17	1	17	1	17		
GRAVEL AND SAND	3,557	203,558	123,897	.61	808	45,328	777	43,642	707	39,867		
PRODUCTS OF FORESTS												
LOGS	51,196	2,035,622	818,069	.40	45,758	1,830,504	45,584	1,823,645	45,733	1,829,415		
POST, POLES AND PILING	2,687	80,846	270,239	3.34	1,142	34,510	485	14,416	208	6,701		
WOOD (FUEL)	4,051	132,802	112,770	.85	3,305	112,061	3,004	102,914	3,251	110,319		

Defendants' Exhibit 75, Sheet 4:

NORTHERN PACIFIC RAILWAY COMPANY

	SYSTEM				WASHINGTON							
	TOTAL REVENUE FREIGHT CARRIED				TOTAL REVENUE		REVENUE FREIGHT		REVENUE FREIGHT			
	CAR-LOADS	TONS	TOTAL REVENUE	AVG. REV. PER TON	FREIGHT CARRIED		ORIGINATING ON N.P.		TERMINATING ON N.P.		CARLOADS	TONS
					CARLOADS	TONS	CARLOADS	TONS	CARLOADS	TONS		
PRODUCTS OF FORESTS - CONTINUED												
LUMBER, SHINGLES & LATH	36,161	1,010,990	\$5,646,309	\$5.58	31,807	896,989	17,592	493,486	6,464	219,523		
BOX, CRATE & COOPERAGE MAT'Ls.	2,018	47,655	207,495	4.35	1,507	35,890	1,054	23,756	521	13,827		
VENEER & BUILT-UP WOOD	2,361	64,082	474,536	7.41	2,360	64,073	2,252	61,373	464	13,142		
MANUFACTURERS AND MISC.												
PETROLEUM OILS, ETC.	22,146	607,879	2,926,611	4.81	4,465	133,180	1,212	37,167	2,457	74,372		
IRON AND STEEL PIPE	268	7,211	70,288	9.75	106	3,219	13	341	70	2,132		
IRON & STEEL, NAILS & WIRE	462	13,535	83,036	6.13	148	5,029	62	1,904	124	4,157		
IRON AND STEEL, N.O.S., 5TH CLASS	3,281	115,108	773,646	7.21	2,174	79,846	577	19,684	1,683	61,150		
MACHINERY AND BOILERS	982	21,147	274,186	12.97	628	13,930	159	4,336	332	7,469		
CEMENT	5,787	199,445	457,216	2.29	1,996	70,059	1,029	36,084	1,777	64,334		
AUTOMOBILES	7,018	41,455	1,172,404	28.28	2,974	17,745	4	23	2,262	13,441		
AUTOTRUCKS	1,061	7,939	202,496	25.51	673	5,241	16	203	513	3,990		
AUTO & TRUCKS, K.D. & PARTS	446	10,825	160,001	14.78	420	10,478	159	4,592	162	3,424		
AUTO AND TRUCK TIRES	299	4,685	43,800	9.35	202	3,363	10	86	150	2,486		
BEVERAGES	3,445	58,155	442,987	7.62	770	17,962	344	7,793	477	11,518		
CANNED FOOD PRODUCTS, N.O.S.	3,886	109,804	823,050	7.50	2,909	86,076	1,990	56,839	942	24,009		
PAPER BAGS & WRAPPING PAPER	1,419	37,066	123,592	3.33	550	13,824	55	1,445	160	3,687		
BUILDING WOODWORK (MILLWORK)	1,522	35,307	299,373	8.48	1,372	31,697	1,327	30,661	94	2,150		
MANUFACTURERS, N.O.S.	20,864	484,587	2,393,978	4.94	9,610	210,133	4,707	107,638	5,894	120,244		

DEFENDANTS' EXHIBIT 76

Northern Pacific Railway Company

ASSESSED VALUATIONS DETERMINED BY THE STATE
BOARD OF EQUALIZATION, ARRIVED AT BY
AGREEMENT AND FIXED BY DECREE.

1925 Decree	\$104,078,987
1926 Decree	106,017,715
1927 Agreement	112,000,000
1928 Agreement	112,000,000
1929 Agreement	112,000,000
1930 Agreement	112,000,000
1931 Agreement	112,000,000
1932 Agreement	105,000,000
1933 State Board of Equalization.....	100,450,000
1934 State Board of Equalization.....	92,804,500
1935 State Board of Equalization.....	90,000,000
1936 State Board of Equalization.....	88,500,000

[2358]

DEFENDANTS' EXHIBIT 77.

PROCEEDINGS OF 14TH NATIONAL CON-
FERENCE, 1921, NATIONAL TAX
ASSOCIATION

Page 99

Frederick M. Davenport of New York: Professor Bullock and members of the conference: My information is, having myself been introduced to this subject only a short time ago, that at the last session of this association a committee was authorized on the apportionment of taxes as between states on railroads and public utilities. In addition to the chairman, the members of this committee

(Defendants' Exhibit 77—Continued.)

—quite recently appointed, within a number of weeks—are Mr. Fletcher, secretary of the Nevada Tax Commission, President Jess of the State Board of Taxes and Assessment of New Jersey, Judge Armson of the State Tax Commission of Minnesota, Professor Fairchild, Mr. Sanders, Tax Commissioner of the Northern Pacific Railway, Mr. Goodwin, Attorney for the Union Tank Line, and Mr. Whitney, Tax Attorney for the Western Union Telegraph Company. There are five members of the eight of this committee who are at this conference, and we have had two or three discussions together. [2359]

PROCEEDINGS OF 16TH NATIONAL CON-
FERENCE, 1923 NATIONAL TAX
ASSOCIATION

Pages 402 to 411 inc. and 418-419

Mr. Frederick M. Davenport: Mr. Chairman and Members of the Conference: This topic, the question of the interstate apportionment of the tax and public utilities, is a far dryer and less dramatic topic than the bank tax issue, but it may not be out of place as an opiate. (Laughter)

The Committee prefers to have what I read to-night called, not a report, but a "Program of Tentative Suggestions upon the Interstate Apportionments of a Tax on Public Utilities."

Mr. Davenport presented the report.

(Defendants' Exhibit 77—Continued.)

A PROGRAM OF TENTATIVE SUGGESTION,
SUPPLEMENTING A PREVIOUS RE-
PORT OF THE COMMITTEE ON THE
TAXATION OF PUBLIC UTILITIES AND
UPON THE INTERSTATE APPORTION-
MENT OF THE TAX.

Frederick M. Davenport, Chairman

Outline

I—The Problem of Taxation of Public Utilities.

1—Introductory

2—Summary of 1922 Report

3—The Chief Remaining Question

4—The Prime Essential

5—Classification of Public Utilities

6—Method of Approach

7—Characteristics Desired in Apportionment
Measures

II—Individual Utilities

8—Railroads

9—Hydro-Electric and Power

10—Street Railways

11—Express Companies

12—Pipe Lines

13—Car Lines

14—Parlor and Sleeping Cars

15—Telephone

16—Telegraph and Cable

17—Highway Transport

18—Navigation Lines

III—Conclusion [2360]

(Defendants' Exhibit 77—Continued.)

I. The Problem of Taxation of Public Utilities

1. Introductory

At the conference of the National Tax Association in 1920 emphatic expression was given to the need for the formulation of a definite policy to guide the development of the state taxation of interstate business. This committee was appointed to apply to public utility taxation the general principles outlined in the model tax plan. The first report of the committee was made in 1921, at which time the confusion and complexity of the existing situation was outlined in some detail. The committee came to the conclusion, which was apparently shared by the conference, that it was impossible to work out a "rational plan for apportioning an irrational collection of taxes." The association therefore continued the committee and enlarged its field of work to include the "consideration of the entire subject of utility taxation, with the suggestion of approaching a model law for all the states in the taxation of such property." The committee has proceeded in accordance with this authority.

2. Summary of 1922 Report

At the last conference (1922) this committee presented its report on the first phase of its work—the method of taxing public utilities. The outstanding suggestions of this report may be summarized as follows:

1. The ordinary general property tax and the customary excise, license or other business

(Defendants' Exhibit 77—Continued.)

taxes, particularly under local assessment, cannot be applied satisfactorily to public utilities.

2. Utilities cannot be cut up into parts for purposes of taxation. They must be considered as units.

3. A combination of gross and net earnings offers the most satisfactory measure for determining the tax-paying ability and obligation of public utilities; that is, an alternate gross or net tax.

4. The tax rates to be applied in the several states are to be determined in each state so as to make the tax burden on the public utilities correspond fairly with the property and business taxes which, as a matter of fact, are paid by other corporations. The tax on net earnings may also be made to serve to take some part of the profits of the more [2361] favorably situated utilities, as required by the principle of rate regulation. The committee does not recommend specific rates but indicates how they may be worked out.

5. The alternative gross or net tax on public utilities should form an exclusive tax, taking the place of all other state and local levies.

Though there are many questions involved in these five more or less tentative conclusions, it is not our purpose to raise them for discussion at this conference. We desire to confine the discussion to the question of apportionment.

(Defendants' Exhibit 77—Continued.)

3. The Chief Remaining Question

The second part of the committee's work, and the chief remaining question is the problem of interstate apportionment. Wherever a public utility operates in more than one state, how is each state in question to determine what part of the gross earnings or what part of the net earnings are assignable to it? This is the question of interstate apportionment.

4. The Prime Essential

In approaching this problem the members of the committee are agreed that the prime essential is the elimination of double taxation. Whatever methods of apportionment are selected, it is important that there be substantial uniformity among the several states. In view of this fact, it seemed at first sight as if almost any rule of thumb, or arbitrary rule, would be satisfactory if adopted universally. On further thought, however, it became clear that a crude measure of apportionment would not be adopted by all the states. From the very nature of the case a rule of thumb would favor some states at the expense of other states and would not prove attractive to the injured jurisdiction. It, therefore, became clear that the only measure of apportionment which stood a chance of wide adoption was one that commanded itself to state tax authorities generally as reasonable and fair, and therefore it may be necessary to select methods of apportionment somewhat more complicated than we should like. [2362]

(Defendants' Exhibit 77—Continued.)

5. Classification of Public Utilities

It is clear that the same measure of apportionment cannot be used for different types of utilities. The telephone business cannot be apportioned on the basis of passenger miles, nor the steamship business on the basis of instruments or subscribers. Before determining objective measures of apportionment, it is necessary to list and classify the various public utilities. In view of this, the committee has prepared the following tentative classification:

I—Steam railroad

Street railroad

Express

Pipe line

Car line

Parlor and sleeping cars

II—Telephone

Telegraph

Cable

III—Canals

Bridges

IV—Motor transport

Stage

V—Hydro-electric

Electric

Gas

VI—Steamship

Ferry

Canal boat

(Defendants' Exhibit 77—Continued.)

There are a considerable number of smaller utilities which might be listed here, but we have excluded them, because they do not seem to involve the question of interstate apportionment.

6. Method of Approach

The method of approach for determining the proper physical measures by means of which the interstate apportionment may be worked out for each of these utilities is the same. In each case it is necessary: (1) to examine the operation of the business and determine how it derives its income; (2) to ascertain by actual examination of representative companies in each class what measures may be readily found in the normal administrative and accounting records; (3) to make a tentative selection of the most satisfactory measures of apportionment, and (4) to apply the apportionment measure determined upon to a considerable number of individual corporations, in order to test out the operation of the measure. [2363]

The committee had hoped to carry through a study for at least the more important groups of public utilities and to be able to report definite recommendations, and it made systematic endeavor to that end. We had anticipated that the representatives of the more important public utilities and the state tax commissions would be in a position to furnish the committee with much information which would short-cut the work, and wide correspondence was undertaken. Except in relatively

(Defendants' Exhibit 77—Continued.)

few instances, however, we have been disappointed in this hope. And of course we cannot claim that the suggestions with respect to individual groups of utilities which we now make have been at all tested by the scientific and statistical methods which the committee feels essential.

7. Characteristics Desired in Apportionment Measures

In selecting measures to be used in apportionment formulae something is to be gained, perhaps, by keeping before us the characteristics which we regard as essential and desirable in such indices. In the opinion of the committee our measures of apportionment should be:

(1) Accurate—in order that our apportionment may be fair and generally accepted.

(2) Simple—so that it will not require an extensive campaign of education before acceptance.

(3) Actual—based on measurable facts, as distinguished from computations, judgments and hypotheses.

(4) Accessible—in the normal administrative and accounting records of a public utility.

In few cases is it possible to satisfy all of these criteria. In the following paragraphs the various public utilities are discussed and the effort made to present apportionment measures which will possess these characteristics.

(Defendants' Exhibit 77—Continued.)

II. Individual Utilities

8. Railroads

The committee has had opportunity to examine most closely the problem of apportionment in connection with railroads. We have ex- [2364] amined the following methods of apportionment:

All-track mileage

Single track mileage

Net earnings

Gross earnings

Car mileage

Train mileage

Car and locomotive mileage

Traffic units (ton and passenger rates combined)

Physical valuation

Track Mileage

Single Track Mileage is not a satisfactory index of property distribution because it ignores terminals, nor is it a fair index of business done, because it ignores density of traffic. All Track Mileage, which makes allowance for double tracking, sidings, etc., serves to overcome both of these shortcomings to a considerable degree. Where there are terminals, there are more tracks; where business is heavy, there are additional lines. Nevertheless, even all-track mileage has its weaknesses. For example, a state may have ten per cent of the all-track mileage of a railway system but not ten per cent of the value or of the business.

(Defendants' Exhibit 77—Continued.)

Some of those who most earnestly advocate the use of the all-track mileage basis of distribution would go farther, and give to the tracks other than single (main) track a greater weight than to the single main track. To illustrate: State A has 2000 miles of single main track and 3000 miles of auxiliary tracks, while state B has 2000 miles of single main track and only 1000 miles of auxiliary track. This situation plainly indicates that A is a more valuable part of the system than is B, because the great excess of auxiliary tracks means business originating there. On a straight all-track mileage allocation, B is given three-fifths of A's allotment. But, it is argued, B is not in fact worth three-fifths as much as A, but that the auxiliary tracks ought to be given, say, twice the weight of the single main track. [2365]

The trouble with this plan is that the amount of the extra weight to be attached to the auxiliary tracks is a shot in the dark. To fix it at double or treble or any multiple of the single-track value is necessarily arbitrary, and is based on nothing. While in theory it seems proper to give to the auxiliary track a greater weight than to the main track, the determination of the multiple to be used seems a serious obstacle.

Net Earnings

Strange as it may seem, net earnings is perhaps the worst of all measures of apportionment. If net earnings figures were accurate there could be no need of a method of allocation; but the fact is that

(Defendants' Exhibit 77—Continued.)

figures showing net earnings by states are so inexact as to be meaningless. System net earnings are accurate and exact, because they represent what is left after deducting the total system operating expenses from the total system gross earnings; but when attempt is made to ascertain what part of the net was made in each state, the task is hopeless. Many state commissions call for a report of net earnings by states, and in attempted compliance with the demand railroad accountants have worked out certain formulae for producing the figure; but a great part of system expenses are insusceptible of localization, and the result is that operating expenses allocated to a state do not even approximate the true figure. One state is given much less than her fair share of the total expense; another is given vastly more than her proper amount. This is now so obvious, and so well recognized, that few states pay any attention to net figures by states, either for valuation purposes or as fixing a ratio for apportionment. In any case the use of the so-called "net earnings" measure as a means for determining the apportionment of net earnings is merely chasing ourselves in a circle.

Gross Earnings

This is a commonly accepted method of allocation. It is regarded [2366] by some as the best of all the methods.*

*Census Bulletin No. 21, page 51, Professor Meyer says: "Therefore it was necessary to select from all the remaining methods that one which

(Defendants' Exhibit 77—Continued.)

It must not be thought, however, that figures showing gross earnings by states are strictly accurate. They are always the result of formulae and do not purport to be the actual earnings made within the state. Interstate carriers have two classes of gross earnings, intrastate, or local earnings, and interstate earnings. The former are those made on business both beginning and ending in the state. They are easily ascertainable and are absolutely accurate. Not so with the interstate gross earnings, whose allocation to the several states over which the shipment passes is arbitrarily made. A common plan of allocation is to give to a state that ratio of the gross revenue derived from a single shipment which the mileage in that state bears to the total miles hauled. The effect of this is to give an undue earning power to a state having a long mileage across it, where the great bulk of the interstate business merely passes over the state. The

promised the best results. This method is the gross earnings basis for the distribution of values. In theory it meets the requirements of the problem of distribution of values better than any of the other available methods, and in practice it has the advantage of depending upon information which the overwhelming majority of the railway companies in the United States can furnish. Besides, it has received much more support among men who should be qualified to have correct judgments on matters of this kind than any other. In fact, practical unanimity exists regarding the preference for the gross earnings method, under the circumstances."

(Defendants' Exhibit 77—Continued.)

committee believes, however, that gross earnings are a necessary element in an apportionment formula.

Car Mileage

This is frequently used as a means of dividing system value between the states. It answers the question: "Of the total miles traveled by all the cars on the system, how many miles were traveled in a given state?" The ratio thus found is roughly indicative of the relative amount of business done in a given state, but, as Professor Meyer points out, it fails to take account of the nature of the traffic, the character of the haul, the utilization of car capacity and other equally important transportation factors. [2367]

Train Mileage

This method has little to recommend it, because it does not accurately reflect either earnings or density of traffic. In a mountainous state trains cannot be made up of as many cars as are pulled in a prairie state. The result is, more trains to perform the same volume of work. The car mileage basis has a good deal in its favor; the train mileage has nothing.

Car and Locomotive Mileage

On the theory that some weight should be given to train mileage, but not as much weight as is given car mileage, Judge Haugen, of the Wisconsin tax commission, devised the car and locomotive mileage basis. This plan, as the name indicates, throws

(Defendants' Exhibit 77—Continued.)

together the miles traveled by both the cars and the locomotives, and finds the ratio for the given state. This shows where the business is handled, and for this reason it is worthy of consideration.

Traffic Units

A method of apportionment originating also with Judge Haugen and having much to recommend it. It ascertains how many tons of freight and how many passengers were carried one mile, on the system and in the state, and from these figures the state ratio is produced. It may be objected that this plan ignores the character of the traffic and the nature of the haul, but any method suggested is open to attack, and Judge Haugen's scheme is not more subject to criticism than are any of the other methods.

Physical Valuation

It is almost impossible to arrive at a satisfactory physical valuation of a railway system. In fact this is one of the reasons for the general abandonment of physical valuation as the basis of [2368] railway taxation. The chief difficulty, however, is not the appraisal of the system, but the determination of an evaluation which would be fair, in comparison with other property. This difficulty ceases to be an obstacle when physical valuation is used merely as a basis of apportionment, inasmuch as all that is needed is the comparative figure. Physical valuation is a poor index of business done or of earnings. When compared with **TRAFFIC UNITS**,

(Defendants' Exhibit 77—Continued.)

it shows the highest degree of deviation of any of the indices here discussed, and therefore it is important that it should be employed as one of the apportionment factors. In addition to this, physical valuation is, of course, the very best index of property distribution, and if the alternative gross net tax is to be an exclusive tax, in lieu of property taxes, distribution of property deserves some recognition.

The phrase "physical valuation," as used here, is broadly used and in fact refers not to "value," but to "cost," "cost of reproduction" or "investment," terms very different from "value."

A Composite Basis

There is not a single known and accepted basis of allocation which is not weak at one point or another. Any one of them might work out admirably in one state, but produce an absurd result in another state. No one method is a safe guide to distribution, and hence it is necessary to use a composite basis, employing, however, only those bases which have something to recommend them. Too often composites are made up of units some of which are good and some of which are bad. Composites and averages cannot be found by throwing in the bad with the good, and if a method, such as the single track basis, is concededly wrong, it should never be permitted in a calculation to produce an average.

Of the nine methods of apportionment above referred to, we would use these five: all-track mile-

(Defendants' Exhibit 77—Continued.)

age; car mileage; physical valuation; [2369] traffic units, and gross earnings. No one is wholly satisfactory, but they complement one another, work substantial justice between the several states, and appear to come as close to accuracy as the complex nature of the subject will permit.

As fluctuations may occur in any of these figures, it is better to use them by five-year averages, as this tends toward stability, and obviates freakish increases or decreases. However, the all-track mileage and physical valuation should be used as of the end of the last calendar year, and not for a five-year average, as, otherwise, newly constructed mileage or terminals would not receive proper recognition.

Test Application

Before definitely adopting the basis of apportionment suggested above for railroads, it will be necessary to secure from various railway systems the statistical data by means of which the validity of the apportionment formula may be tested. Through the kindness of the Northern Pacific Railway Company the committee has secured certain pertinent information. Table No. 1 presents this material and shows the various ratios for each state through which the Northern Pacific Railway passes. The corresponding percentage distribution under the apportionment formula recommended by the committee is indicated in column 11 of Table No. 1, and seems to work out very equitably as between states. [2370]

(Defendants' Exhibit 77—Continued.)

Table No. 1

PERCENTAGE DISTRIBUTION BY STATES OF TRACK, TRAFFIC, EARNINGS AND VALUATION OF THE NORTHERN PACIFIC RAILWAY (1922)

State	All Track	Single Track	Net Earnings	Gross Earnings	Car Mileage
(1)	(2)	(3)	(4)	(5)	(6)
Wisconsin	1.83	1.86	*	.82	.68
Minnesota	19.08	15.13	32.00	25.42	22.47
North Dakota	18.76	23.16	16.91	15.90	17.26
Montana	23.51	24.74	29.62	27.09	33.56
Idaho	4.24	4.93	1.98	3.23	3.54
Washington	31.86	29.34	19.49	27.26	22.34
Oregon .....	.74	.84	*	.28	.14

State	Train Mileage	Car and Locomotive Mileage	Traffic Units	Physical Valuation	Committee Formula Av. of Cols. (2), (5), (6), (9) (10)
	(7)	(8)	(9)	(10)	(11)
Wisconsin	1.34	.73	.52	1.75	1.12
Minnesota	20.90	22.53	25.08	20.43	22.50
North Dakota	17.99	17.15	16.84	13.78	16.51
Montana	29.85	33.23	31.67	25.04	28.17
Idaho	3.79	3.51	3.40	3.86	3.66
Washington	25.80	22.69	22.35	34.30	27.62
Oregon .....	.33	.15	.13	.84	.42
					100.00

*Net loss.

Note: Based on information furnished by the Northern Pacific Railway Co., except for column 10, which is computed from tentative valuation of Interstate Commerce Commission.

III. Conclusion.

In bringing this program of suggestions to a close, the committee wishes to emphasize the tenta-

(Defendants' Exhibit 77—Continued.)

tive nature of them all. Our main purpose has been to arouse discussion and indicate the method of approach which must be followed in developing apportionment formulae for the various public utilities. It must be clear to the members [2371] of the conference that the application of the required method to even a single utility is an exacting task in itself, and that its application to a score of utilities involves the labor of a research staff, and a wider inquiry than the committee, and probably the conference is ready now to undertake. [2372]

DEFENDANTS' EXHIBIT 79

is a township plat of townships 8 and 9, range 5 East, Willamette Meridian, which includes the location of Mt. St. Helens.

DEFENDANTS' EXHIBIT 80

is a computation (based on Tax Commission's reassessment figures) showing the market value of Plaintiff's railway in Washington indicated by giving 80% weight to market value of stock plus par value of funded debt less non-operating property deductions, and 20% weight to system reproduction cost less depreciation, and allocating such indicated system value to Washington by percentages found by Tax Commission.

DEFENDANTS' EXHIBIT 81

is a computation (based on Tax Commission's reassessment figures) showing market value of Plain-

tiff's railway in Washington indicated by giving 40% weight to market value of stock plus par value of funded debt less non-operating property deductions, 40% weight to net railway operating income capitalized at 6%, and 20% weight to system reproduction cost less depreciation, and allocating such indicated system value to Washington by percentages found by Tax Commission. [2373]

NORTHERN PACIFIC RAILWAY COMPANY

COMPARISON OF ACTUAL APPORTIONMENT WITH MILEAGE PRORATE APPORTIONMENT TO S. P. & S. SYSTEM OF JOINT EARNINGS FROM REVENUE CARLOAD FREIGHT INTERCHANGED BETWEEN SAID S. P. & S. SYSTEM AND N. P., AND BETWEEN S. P. & S. SYSTEM AND G. N. DURING MONTHS OF JANUARY, MARCH, MAY, JULY, SEPTEMBER AND OCTOBER, 1935.

NOTE: BY "S. P. & S. SYSTEM" IS MEANT THE SPOKANE, PORTLAND & SEATTLE RAILWAY COMPANY, THE OREGON TRUNK RAILWAY, THE OREGON ELECTRIC RAILWAY, THE UNITED RAILWAYS, AND THE GALES CREEK & WILSON RIVER RAILROAD.
 BY "N.P." IS MEANT THE NORTHERN PACIFIC RAILWAY COMPANY.
 BY "G.N." IS MEANT THE GREAT NORTHERN RAILWAY COMPANY.
 DATA TAKEN FROM "ABSTRACTS OF INTERLINE WAYBILLS" ON FILE IN OFFICES OF SPOKANE, PORTLAND & SEATTLE RAILWAY COMPANY, PORTLAND, OREGON.

	TOTAL EARNINGS OF S. P. & S. SYSTEM AND/OR N. P. AND G. N. (A)	EARNINGS OF N.P. AND/OR G.N.		EARNINGS OF S.P. & S. SYSTEM		RELATION OF S.P.&S. SYSTEM'S ACTUAL APPORTIONMENT, TO MILEAGE PRORATE APPORTIONMENT (D+E)
		AS ACTUALLY APPORTIONED (B)	MILEAGE PRORATE APPORTIONMENT (C)	AS ACTUALLY APPORTIONED (D)	MILEAGE PRORATE APPORTIONMENT (E)	
(A) FREIGHT INTERCHANGED BETWEEN G.N. AND S.P. & S. SYSTEM.						
(A-1) THROUGH SHIPMENTS	\$2,139,777	\$1,341,556	\$1,539,453	\$798,221	\$600,324	133.0%
(A-2) TRANSIT SHIPMENTS	136,199	79,050	83,083	57,149	53,116	107.6%
(A-3) TOTAL	\$2,275,976	\$1,420,606	\$1,622,536	\$855,370	\$653,440	130.9%
(B) FREIGHT INTERCHANGED BETWEEN N.P. AND S.P.&S. SYSTEM.						
(B-1) THROUGH SHIPMENTS	\$2,370,086	\$1,411,720	\$1,553,819	\$958,366	\$816,267	117.4%
(B-2) TRANSIT SHIPMENTS	143,644	83,308	82,816	60,336	60,828	99.2%
(B-3) TOTAL	\$2,513,730	\$1,495,028	\$1,636,635	\$1,018,702	\$877,095	116.1%
(C) FREIGHT INTERCHANGED BETWEEN G.N. AND S.P.&S. SYSTEM, PLUS FREIGHT INTERCHANGED BETWEEN N.P. & S.P.&S. SYSTEM.						
(C-1) THROUGH SHIPMENTS	\$4,509,863	\$2,753,276	\$3,093,272	\$1,756,587	\$1,416,591	124.0%
(C-2) TRANSIT SHIPMENTS	279,843	162,358	165,899	117,485	113,944	103.1%
(C-3) TOTAL	\$4,789,706	\$2,915,634	\$3,259,171	\$1,874,072	\$1,530,535	122.4%

DEFS¹. Ex. 83

NORTHERN PACIFIC RAILWAY COMPANY

COMPARISON OF ACTUAL APPORTIONMENT WITH MILEAGE PRORATE APPORTIONMENT TO S. P. & S. SYSTEM OF JOINT EARNINGS FROM REVENUE CARLOAD FREIGHT INTERCHANGED BETWEEN SAID S. P. & S. SYSTEM AND N. P., AND BETWEEN THE S. P. & S. SYSTEM AND G. N., AND MOVING VIA THE N. P.'S OR G. N.'S TRANS-CONTINENTAL MAIN LINES AND VIA SPOKANE, TO OR FROM POINTS EAST OF WASHINGTON, DURING THE MONTHS OF JANUARY, MARCH, MAY, JULY, SEPTEMBER, AND OCTOBER, 1935. (SAID DIVISIONS OF REVENUE REFERRED TO IN SUPPORTING TESTIMONY AS "S. P. & S. EAST-WEST DIVISIONS.")

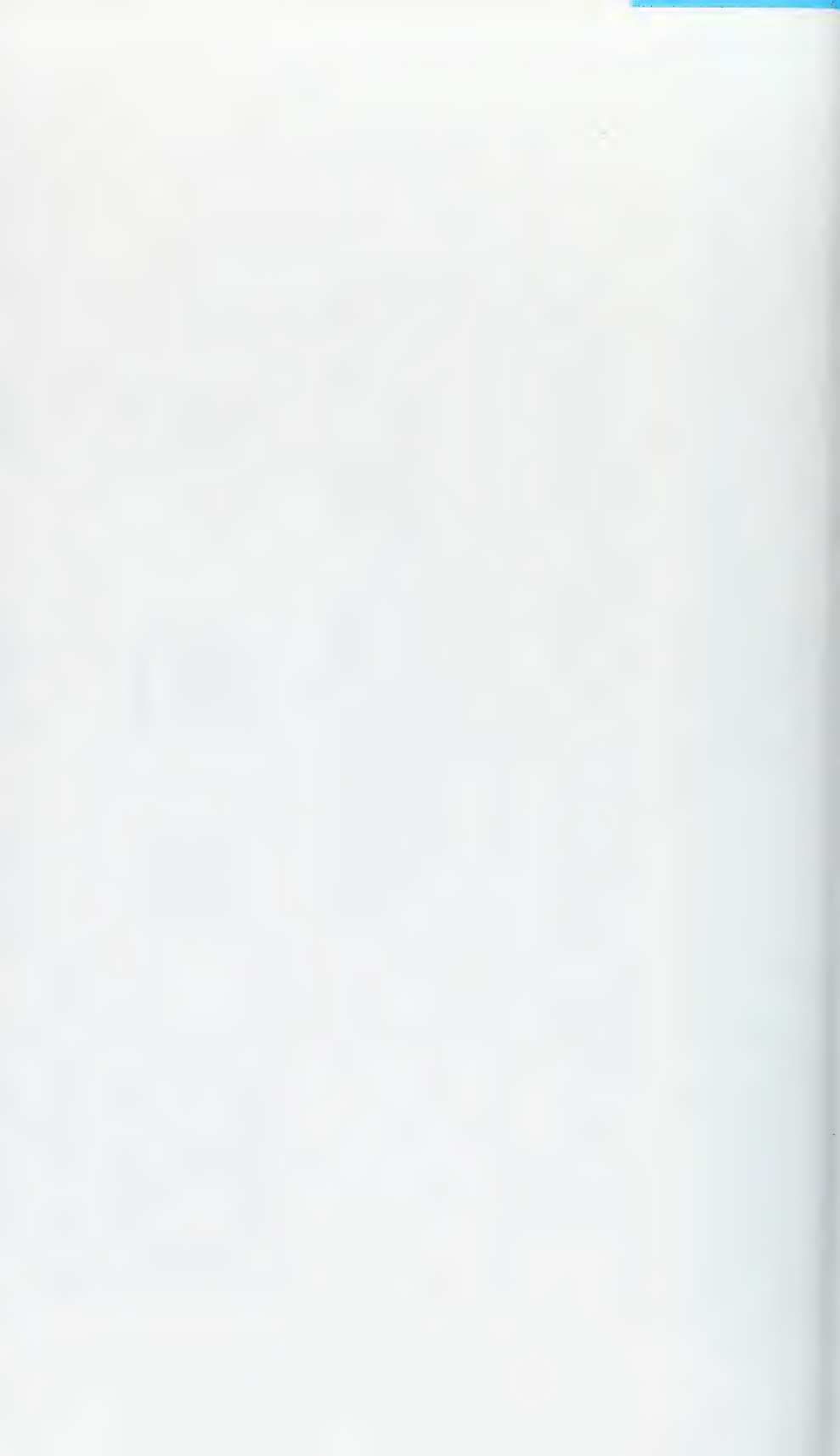
NOTE: (SAME DEFINITIONS AND EXPLANATIONS APPLY, AS APPLY TO DEFS¹. Ex. 82).

	TOTAL EARNINGS OF S. P. & S. SYSTEM AND/OR N. P. AND G. N. (A)	EARNINGS OF N. P. AND/OR G. N.		EARNINGS OF S. P. & S. SYSTEM		RELATION OF S. P. & S. SYSTEM'S ACTUAL APPOR- TIONMENT TO MILEAGE PRO-RATE APPORTIONMENT (D + E)
		AS ACTUALLY APPORTIONED (B)	MILEAGE PRORATE APPORTIONMENT (C)	AS ACTUALLY APPORTIONED (D)	MILEAGE PRORATE APPORTIONMENT (E)	
(A) FREIGHT INTERCHANGED BETWEEN G. N. AND S. P. & S. SYSTEM.						
(A-1) THROUGH SHIPMENTS	\$1,916,858	\$1,226,753	\$1,405,044	\$690,105	\$511,814	134.84%
(A-2) TRANSIT SHIPMENTS	135,434	78,624	82,649	56,810	52,785	107.63%
(A-3) TOTAL	\$2,052,292	\$1,305,377	\$1,487,693	\$746,915	\$564,599	132.29%
(B) FREIGHT INTERCHANGED BETWEEN N. P. AND S. P. & S. SYSTEM.						
(B-1) THROUGH SHIPMENTS	\$1,525,256	\$1,014,908	\$1,167,044	\$510,348	\$358,212	142.47%
(B-2) TRANSIT SHIPMENTS	57,998	38,797	47,064	19,934	12,934	148.45%
(B-3) TOTAL	\$1,583,254	\$1,053,705	\$1,212,108	\$529,549	\$371,146	142.68%
(C) FREIGHT INTERCHANGED BETWEEN G. N. AND S. P. & S. SYSTEM, PLUS FREIGHT INTERCHANGED BE- TWEEN N. P. AND S. P. & S. SYSTEM.						
(C-1) THROUGH SHIPMENTS	\$3,442,114	\$2,241,661	\$2,572,088	\$1,200,453	\$870,026	137.98%
(C-2) TRANSIT SHIPMENTS	193,432	117,421	127,713	76,011	65,719	115.66%
(C-3) TOTAL	\$3,635,546	\$2,359,082	\$2,699,801	\$1,276,464	\$935,745	136.41%

NORTHERN PACIFIC RAILWAY COMPANY

COMPARISON OF APPORTIONMENT OF REVENUE FROM CARLOAD REVENUE FREIGHT INTERLINE BETWEEN THE S.P. & S. SYSTEM AND/OR G. N. AND N.P. MOVING BETWEEN POINTS IN WASHINGTON, OREGON AND IDAHO OTHER THAN MOVEMENTS VIA MAIN LINE EAST OF SPOKANE.

EARNINGS OF S.P. & S. SYSTEM			RELATION OF S.P. & S. SYSTEM'S ACTUAL APPORTIONMENT TO MILEAGE PRO-RATE APPORTIONMENT	
AS ACTUALLY APPORTIONMENT	MILEAGE PRO-RATE APPORTIONMENT	(A)	(B)	(A + B)
FREIGHT INTERCHANGED BETWEEN G.N. AND S.P.&S. SYSTEM				
TOTAL (FROM EX. 82)	\$653,440	\$855,370		130.9%
E-W (FROM EX. 83)	564,599	746,915		132.29%
DIFFERENCE = N-S	\$88,841	\$108,455		122.06%
FREIGHT INTERCHANGED BETWEEN N.P. AND S.P.&S. SYSTEM				
TOTAL (FROM EX. 82)	\$877,095	\$1,018,702		116.1%
E-W (FROM EX. 83)	371,146	529,549		142.68%
DIFFERENCE = N-S	\$505,949	\$489,153		96.66%
FREIGHT INTERCHANGED BETWEEN G.N. AND S.P. & S. SYSTEM, PLUS FREIGHT INTERCHANGED BETWEEN N.P. AND S.P.&S. SYSTEM				
TOTAL (FROM EX. 82)	\$1,530,535	\$1,874,072		122.4%
E-W (FROM EX. 83)	935,745	1,276,464		136.4%
DIFFERENCE = N-S	\$594,790	\$597,608		100.47%



DEFS¹. Ex. 84

NORTHERN PACIFIC RAILWAY COMPANY

AVERAGE MILES OF HAUL ON (1) S. P. & S. SYSTEM, (2) N.P., (3) G.N. (4) N.P. AND G.N. COMBINED, AND (5) TOTAL OF SAID MOVEMENTS, OF TOTAL REVENUE CARLOAD FREIGHT INTERCHANGED BETWEEN (A) THE S.P. & S. SYSTEM AND G. N., (B) THE S.P. & S. SYSTEM AND N.P., AND (C) THE S. P. & S. SYSTEM AND N. P. AND G. N., DURING THE MONTHS OF JANUARY, MARCH, MAY, JULY, SEPTEMBER, AND OCTOBER, 1935.

NOTE: (SAME DEFINITIONS AND EXPLANATIONS APPLY, AS APPLY TO DEFS¹. Ex. 82).

	TOTAL TONS OF REVENUE FREIGHT HAULED.	G. N. AND/OR N.P.		S. P. & S. SYSTEM		TOTAL ON S.P. & S. SYSTEM AND N.P. AND/OR G.N.	
		TOTAL TON MILES	AVERAGE MILES OF HAUL (B+A)	TOTAL TON MILES	AVERAGE MILES OF HAUL (D+A)	TOTAL TON MILES (B+D)	AVERAGE MILES OF HAUL (F+A)
	(A)	(B)	(C)	(D)	(E)	(F)	(G)
(A) FREIGHT INTERCHANGED BETWEEN G.N. AND S. P. & S. SYSTEM.							
(A-1) THROUGH SHIPMENTS	216,648	199,189,470	919 MILES	74,819,820	345 MILES	274,009,290	1,264 MILES
(A-2) TRANSIT SHIPMENTS	16,383	10,497,971	641 MILES	6,222,925	380 MILES	16,720,896	1,021 MILES
(A-3) TOTAL	<u>233,031</u>	<u>209,687,441</u>	900 MILES	<u>81,042,745</u>	348 MILES	<u>290,730,186</u>	1,248 MILES
(B) FREIGHT INTERCHANGED BETWEEN N.P. AND S. P. & S. SYSTEM.							
(B-1) THROUGH SHIPMENTS	291,128	191,867,324	659 MILES	80,664,429	277 MILES	272,531,753	936 MILES
(B-2) TRANSIT SHIPMENTS	23,538	10,537,218	448 MILES	6,143,413	261 MILES	16,680,631	709 MILES
(B-3) TOTAL	<u>314,666</u>	<u>202,404,542</u>	643 MILES	<u>86,807,842</u>	276 MILES	<u>289,212,384</u>	919 MILES
(C) FREIGHT INTERCHANGED BETWEEN G.N. AND S. P. & S. SYSTEM, PLUS FREIGHT INTERCHANGE BETWEEN N.P. AND S.P. & S. SYSTEM.							
(C-1) THROUGH SHIPMENTS	507,776	391,056,794	770 MILES	155,484,249	306 MILES	546,541,043	1,076 MILES
(C-2) TRANSIT SHIPMENTS	39,921	21,035,189	527 MILES	12,366,338	310 MILES	33,401,527	837 MILES
(C-3) TOTAL	<u>547,697</u>	<u>412,091,983</u>	752 MILES	<u>167,850,587</u>	307 MILES	<u>579,942,570</u>	1,059 MILES

Defts'. Ex. 85

NORTHERN PACIFIC RAILWAY COMPANY

AVERAGE MILES OF HAUL ON (1) S.P. & S. SYSTEM, (2) N.P., (3) G.N., (4) N.P. AND G.N. COMBINED, AND (5) TOTAL SAID MOVEMENTS, OF REVENUE CARLOAD FREIGHT INTERCHANGED BETWEEN SAID S.P. & S. SYSTEM AND N.P., AND BETWEEN THE S.P. & S. SYSTEM AND G.N., AND MOVING VIA THE N.P.'S OR G.N.'S TRANSCONTINENTAL MAIN LINES AND VIA SPOKANE, TO OR FROM POINTS EAST OF WASHINGTON, DURING THE MONTHS OF JANUARY, MARCH, MAY, JULY, SEPTEMBER AND OCTOBER 1935. (SAID FREIGHT MOVEMENTS REFERRED TO IN SUPPORTING TESTIMONY AS "S. P. & S. EAST-WEST FREIGHT MOVEMENTS".)

NOTE: (SAME DEFINITIONS AND EXPLANATIONS APPLY, AS APPLY TO DEFTS'. EX. 82):

	TOTAL TONS OF REVENUE FREIGHT HAULED	G.N. AND/OR N.P.		S. P. & S. SYSTEM		TOTAL ON S.P.&S. SYSTEM AND N.P. AND/OR G.N.	
		TOTAL TON MILES	AVERAGE MILES OF HAUL (B+A)	TOTAL TON MILES	AVERAGE MILES OF HAUL (D+A)	TOTAL TON MILES (B+D)	AVERAGE MILES OF HAUL (F+A)
(A)	(A)	(B)	(C)	(D)	(E)	(F)	(G)
(A) FREIGHT INTERCHANGED BETWEEN G.N. AND S.P.&S. SYSTEM							
(A-1) THROUGH SHIPMENTS	168,866	185,938,322	1,101 MILES	65,509,349	388 MILES	251,447,671	1,489 MILES
(A-2) TRANSIT SHIPMENTS	2,388	1,526,716	639 MILES	919,174	385 MILES	2,445,890	1,024 MILES
(A-3) TOTAL	171,254	187,465,038	1,095 MILES	66,428,523	388 MILES	253,893,561	1,483 MILES
(B) FREIGHT INTERCHANGED BETWEEN N.P. AND S.P.&S. SYSTEM							
(B-1) THROUGH SHIPMENTS	139,614	158,928,747	1,138 MILES	49,703,741	356 MILES	208,632,488	1,494 MILES
(B-2) TRANSIT SHIPMENTS	5,875	7,236,041	1,231 MILES	2,043,391	348 MILES	9,279,432	1,579 MILES
(B-3) TOTAL	145,489	166,164,788	1,142 MILES	51,747,132	356 MILES	217,911,920	1,498 MILES
(C) FREIGHT INTERCHANGED BETWEEN G.N. AND S.P.&S. SYSTEM PLUS FREIGHT INTERCHANGED BETWEEN N.P. AND S.P.&S. SYSTEM							
(C-1) THROUGH SHIPMENTS	308,480	344,867,069	1,118 MILES	115,213,090	373 MILES	460,080,159	1,491 MILES
(C-2) TRANSIT SHIPMENTS	8,263	8,762,757	1,060 MILES	2,962,565	359 MILES	11,725,322	1,419 MILES
(C-3) TOTAL	316,743	353,629,826	1,116 MILES	118,175,655	373 MILES	471,805,481	1,489 MILES

NORTHERN PACIFIC RAILWAY COMPANY

RELATION OF INTERSTATE REVENUES APPORTIONABLE TO WASHINGTON ON MILEAGE PRORATE BASIS FROM INTERSTATE CARLOAD FREIGHT HAULED ON N.P. SYSTEM DURING JANUARY, APRIL, JULY AND OCTOBER, 1928, TO INTERSTATE REVENUES FROM THE SAME TRAFFIC APPORTIONABLE TO WASHINGTON ON THE FOLLOWING BASIS: (A) REVENUES FROM ALL INTERSTATE FREIGHT MOVING OVER N.P. TRANSCONTINENTAL MAIN LINE VIA SPOKANE TO AND FROM POINTS EAST OF WASHINGTON, AND MOVING TO OR FROM POINTS IN WASHINGTON AND WESTERN OREGON (DESIGNATED AS "N.P. EAST-WEST TRAFFIC"), APPORTIONED TO WASHINGTON ON BASIS OF 142.68% OF MILEAGE PRORATE; (B) REVENUES FROM ALL INTERSTATE FREIGHT MOVING BETWEEN OREGON AND WASHINGTON AND BETWEEN POINTS ON THE CAMAS PRAIRIE, PALOUSE & LEVISTON AND GENESSE BRANCHES OF N.P. IN IDAHO AND POINTS IN WASHINGTON AND OREGON (DESIGNATED AS "N.P. NORTH-SOUTH TRAFFIC"), APPORTIONED ON BASIS OF MILEAGE PRORATE WITH 25% MINIMUM TO STATE OF SHORTEST HAUL, AND (C) OTHER REVENUES FROM INTERSTATE FREIGHT APPORTIONED AS EXPLAINED BY ORAL TESTIMONY.

	THROUGH SHIPMENTS:	(A)	(B)	(C)	TOTAL TRAFFIC
			BURLINGTON TRAF- FIC MILLED IN TRANSIT IN WASH., ORE., OR SOUTH IDAHO:		
(A) FREIGHT AS TO WHICH WASHINGTON APPORTIONMENT 75% OF TOTAL N.P. EARNINGS.					
(A-1) TOTAL N.P. EARNINGS		\$860,859	- - -		\$860,859
(A-2) WASHINGTON APPORTIONMENT (75% OF "A-1")		\$645,644	- - -		\$645,644
(B) FREIGHT AS TO WHICH WASHINGTON APPORTIONMENT 50% OF TOTAL N.P. EARNINGS.					
(B-1) TOTAL N.P. EARNINGS		\$2,008	- - -		\$2,008
(B-2) WASHINGTON APPORTIONMENT (50% OF "B-1")		\$1,004	- - -		\$1,004
(C) FREIGHT AS TO WHICH WASHINGTON APPORTIONMENT 25% OF TOTAL N.P. EARNINGS.					
(C-1) TOTAL N.P. EARNINGS		\$5,170	- - -		\$5,170
(C-2) WASHINGTON APPORTIONMENT (25% OF "C-1")		\$1,292	- - -		\$1,292
(D) FREIGHT AS TO WHICH WASHINGTON APPORTIONMENT MILEAGE PRORATE		\$71,526	- - -		\$71,526
(E) FREIGHT AS TO WHICH SPECIAL DIVISIONS WERE COMPUTED, IN- CLUDING SOUTH IDAHO TRAFFIC MOVING TO AND FROM POINTS EAST OF WASH. VIA SPOKANE		\$61,350	\$6,253		\$67,603
(F) N.P. EAST-WEST TRAFFIC AS EX- PLAINED IN TITLE.					
(F-1) WASHINGTON MILEAGE PRORATE.		\$1,664,586	\$64,106		\$1,728,692
(F-2) WASHINGTON DIVISION 142.68% OF MILEAGE PRORATE		\$2,375,031	\$91,466		\$2,466,497
(G) TOTAL WASHINGTON DIVISIONS (SUM OF LINES "A-2", "B-2" "C-2", "D", "E", & "F-2")		\$3,155,848	\$97,719		\$3,253,567
(H) TOTAL WASHINGTON MILEAGE PRO- RATE		\$2,596,756	\$68,741		\$2,665,497
(I) PERCENTAGE IN EXCESS OF MILE- AGE PRORATE APPORTIONMENT (LINE "G" + LINE "H")		121.53%	142.16%		122.06%

DEFS: Ex. 36A

NORTHERN PACIFIC RAILWAY COMPANY

EXCESS (EXPRESSED IN PERCENTAGES) OF REVENUE FROM INTERSTATE FREIGHT APPORTIONED TO WASHINGTON BY TURNBURKE METHOD OVER MILEAGE PRORATE APPORTIONMENT.

	<u>WASHINGTON</u>	<u>1930</u>	<u>1931</u>	<u>1932</u>	<u>1933</u>	<u>1934</u>	<u>1935</u>	AVERAGE <u>1930-1934</u> INCLUSIVE	AVERAGE <u>1931-1935</u> INCLUSIVE
(A) INTERSTATE FREIGHT OPERATING REVENUE AS ALLOCATED BY THE TURNBURKE METHOD DEFS'. Ex. 41 AND 41A, LINE 12.		\$10,902,504	\$8,089,884	\$6,185,330	\$6,636,067	\$7,654,473	\$8,234,750	\$7,893,656	\$7,360,105
(B) INTERSTATE FREIGHT OPERATING REVENUE AS REPORTED BY THE COMPANY (MILEAGE PRORATE) Pg. 700 D.P.W. & D.P.S. REPORTS		\$8,674,748	\$6,895,206	\$5,073,128	\$5,316,515	\$6,332,558	\$6,454,375	\$6,458,431	\$6,014,356
(C) INCREASE OR DECREASE OF FREIGHT OPERATING REVENUE BY TURNBURKE ALLOCATION OVER THAT REPORTED BY COMPANY ("A" - "B")		\$2,227,756	\$1,194,678	\$1,112,202	\$1,319,572	\$1,321,915	\$1,780,375	\$1,435,225	\$1,345,749
(D) PERCENTAGE OF INCREASE OR DECREASE ("C" + "B")		25.6809%	17.3262%	21.9234%	24.8202%	20.8749%	27.5840%	22.2225%	22.3756%

DEFS¹. Ex. 87

NORTHERN PACIFIC RAILWAY COMPANY

AVERAGE MILES OF HAUL (1) IN WASHINGTON AND (2) ON REMAINDER OF N. P. SYSTEM AND (3) TOTAL FOR SYSTEM, OF INTERSTATE CARLOAD FREIGHT HAULED ON N.P. SYSTEM DURING JANUARY, APRIL, JULY AND OCTOBER, 1928, AND WHICH MOVED OVER THE N.P. TRANSCONTINENTAL MAIN LINE VIA SPOKANE TO AND FROM POINTS EAST OF WASHINGTON, AND MOVED TO OR FROM POINTS IN WASHINGTON AND WESTERN OREGON (DESIGNATED AS "N.P. EAST-WEST TRAFFIC").

	TOTAL TONS OF REVENUE FREIGHT HAULED	WASHINGTON		OUTSIDE OF WASHINGTON		SYSTEM	
		TON MILES	AVERAGE MILES OF HAUL (B ÷ A) (C)	TON MILES	AVERAGE MILES OF HAUL (D ÷ A) (E)	TON MILES	AVERAGE MILES OF HAUL (F ÷ A) (G)
(A) THROUGH SHIPMENTS	756,893	215,799,753	285 MILES	900,546,366	1,190 MILES	1,116,346,119	1,475 MILES
(B) TRANSIT SHIPMENTS	28,927	10,217,143	353 MILES	31,447,776	1,087 MILES	41,664,919	1,440 MILES
(C) TOTAL SHIPMENTS	785,820	226,016,896	288 MILES	931,994,142	1,186 MILES	1,158,011,038	1,474 MILES

DEFENDANTS' EXHIBIT 88

For Identification

is a certified copy of the title page, pages 1 to 6 inclusive, pages 8 to 10 inclusive, page 12, pages 14 to 16 inclusive, and pages 19 to 22 inclusive of Defendants' Exhibit 7 filed October 19, 1934 in the case of State of Washington vs. Northern Pacific Railway Company, Cause No. 15415, in the Superior Court in and for the State of Washington for Thurston County. Said Exhibit is as follows:

[2382]

DEFENDANTS' EXHIBIT 88,

Title page

Northern Pacific Railway Company

Northern Pacific
Yellowstone Park Line

[Endorsed]: Filed Superior Court of Thurston Co., Wash., Oct. 19 9:38 AM 1934 Paul Paulk, Clerk, By Edwidge La Fond, Deputy. N. P. Ex 7
#15415

In Superior Court of Thurston County.

Docket No. 15415

STATE OF WASHINGTON
vs. NORTHERN PACIFIC RAILWAY
COMPANY

IN THE MATTER OF WASHINGTON OCCU-
PATION TAX 1933-H. B. 92 AS APPLY-
ING TO THE MONTHS OF AUGUST TO
DECEMBER 1933 INCLUSIVE [2383]

DEFENDANTS' EXHIBIT 88, PAGE 1

Northern Pacific Railway Company

RESULT OF INTRASTATE OPERATIONS,
YEAR 1933

(1) Gross operating revenue.....	\$5,271,893
(2) Operating expenses	\$4,796,440
(3) Net revenue from railway operation.....	\$ 475,453
(4) Railway taxes (on operating property).....	\$ 889,319
(5) Railway operating income (deficit).....	\$ 413,866
	[2384]

DEFENDANTS' EXHIBIT 88, PAGE 2

Northern Pacific Railway Company

If joint facility rent income (proportion applicable to local traffic) received for rental of lines in Washington, year 1933, be included and Washington's proportion of bond interest applicable to local business and return on value of property be

(Defendants' Exhibit 88—Continued.)

included, (which defendant states in the negative),
the results are as follows:

(1) Joint facility rent income net credit, representing net amount from Acct. 508, rentals for use of line less Acct. 541, amount paid to other companies for rental of line		\$	582,774
(2) Bond interest:			
Interest on funded debt, year 1933,			
system	\$	14,241,028	
less interest on Series "B" and "C" bonds issued for purchase of C.B.&Q. stock.....	\$	6,792,691	
balance of interest.....		\$	7,448,337
(3) Amount assigned to State of Washington based on the relation of State of Washington to the system of gross operating revenue, transportation service car miles, revenue traffic units and all track mileage owned, year 1933, 25.09%.....		\$	1,868,788
(4) Freight proportion of above sum based on ratio of freight operating expenses, State of Washington, to total freight and passenger operating expenses, year 1933, 71.80%		\$	1,341,790
(5) Passenger proportion based on ratio of passenger operating expenses, State of Washington, to total freight and passenger expenses, State of Washington, 28.20%		\$	526,998
(6) Washington intrastate proportion based on relation of total revenue net ton miles for year 1933, 39.86%.....	534,837	\$	534,837
Washington intrastate proportion based on relation of revenue passenger miles intrastate to total revenue passenger miles in Washington during year 1933, 47.76%.....	\$	251,694	
Total assignment of bond interest to Washington account intrastate traffic.....		\$	786,531

(Defendants' Exhibit 88—Continued.)

DEFENDANTS' EXHIBIT 88, PAGE 3

- (7) Assessed value of operating property in Washington, year 1933..... \$100,450,000
 Assignment to Washington intrastate on same basis as used above for bond interest \$ 42,277,195
 6% on above..... 2,536,632
- (8) Cost of reproduction new less depreciation as found by I. C. C. (See Vol. 25 Valuation Reports, p.), plus net additions and betterments to December 31, 1933, in State of Washington \$167,437,700
 Apportioned to Washington intrastate on same basis as found for bond interest..... 70,470,844
 6% interest on above..... \$ 4,228,251
- (9) The net result of crediting Washington intrastate with proper proportion of joint facility rents and charging it with proper proportion of bond interest as above is a loss of \$203,757 in addition to the \$413,866 deficit from intrastate operations, and if the interest on the assessed valuation be used instead of bond interest the loss is \$1,953,858 in addition to said deficit of \$413,866 and, if interest on the I.C.C. valuation be used instead of the assessed valuation, the loss is \$3,645,477 in addition to said deficit of \$413,866

[2386]

(Defendants' Exhibit 88—Continued.)

DEFENDANTS' EXHIBIT 88, PAGE 4

Northern Pacific Railway Company

Operating Revenues State of Washington Intra- state as reported to Department of Public Works		5,802,530
Deduction account of amount as included in con- nection with foreign commerce.....	369,606	
August 1933.....	20,311	
September 1933.....	28,563	
October 1933.....	30,559	
November 1933.....	28,585	
December 1933.....	86,588	194,606
January to July 1933 estimated on basis of \$25,000 per month	175,000	
	369,606	
Deduction account of switching in connection with interstate traffic included as intrastate.....	161,031	530,637
August 1933.....	\$16,660	5,271,893
September 1933.....	17,962	
October 1933.....	14,139	
November 1933.....	11,763	
December 1933.....	11,827	72,351
January to July, 1933 on basis of ratio of interstate to total in months of August to Decem- ber 1933	88,680	
Operating expenses account of above reductions		
Freight operating revenue intrastate 1933 (Acet. 101) as stated to Dept. of Public Works.....	4,836,839	
Freight operating expenses as used in connection with above revenue.....	3,291,785	
Operating ratio	68.06	
Reduction of operating expenses by reason of ex- clusion of revenue from foreign commerce		
68.06 of \$369,606 or.....	251,554	

(Defendants' Exhibit 88—Continued.)

As no expenses were figured in connection with switching revenue no deduction is made for operating expenses in that connection, but freight operating ratio as explained has been applied to intrastate switching revenue of \$210,821

68.06% of \$210,821..... 143,485

Operating expenses as computed on freight operating ratio for miscellaneous freight revenue accounts excluding switching account 110.

68.06% of \$164,204..... 111,757
[2387]

DEFENDANTS' EXHIBIT 88, PAGE 5

Additional operating expenses

Switching	\$143,485
Misc. Rev. items.....	111,757
	<hr/> 255,242

Less operating expenses on foreign commerce eliminated

251,554

Net increase	3,698
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[2388]

DEFENDANTS' EXHIBIT 88, PAGE 6

Northern Pacific Railway Company

State of Washington—Intrastate Operations

Year ended December 31, 1933

TOTAL OPERATING EXPENSES

Freight operating expenses (as per exhibit).....	3,291,785
Passenger operating expenses (as per exhibit).....	1,500,957
Total operating expenses as applicable to Washington intrastate traffic, year 1933.....	<hr/> 4,792,742
Increase in operating expenses account adjustment of revenue in connection with foreign commerce, switching and miscellaneous revenues.....	3,698

\$4,796,440

[2389]

(Defendants' Exhibit 88—Continued.)
DEFENDANTS' EXHIBIT 88, PAGE 8

Northern Pacific Railway Company
STATE OF WASHINGTON, YEAR 1933.

	<u>Freight</u>	<u>Passenger</u>	<u>Total</u>
Joint facility rents net.....	\$815,241	\$539,823	\$1,355,064
Intrastate proportion of freight based on ratio of intrastate net ton miles, year of 1933.....39.86%	324,955		324,955
Intrastate proportion of passenger based on ratio of passenger operat- ing expenses .....47.76%		257,819	257,819
Total Intrastate Traffic.....	324,955	257,819	582,774
			[2390]

DEFENDANTS' EXHIBIT 88, PAGE 9

Northern Pacific Railway Company
WASHINGTON INTRASTATE REVENUES
Year 1933

<u>Account</u>	<u>As reported to Department of Public Works</u>	<u>Adjustments</u>	<u>Intrastate revenues revised</u>
101 Freight	\$4,836,839	\$369,606*	\$4,467,233
102 Passenger	312,449		312,449
103 Excess baggage	2,444		2,444
104 Sleeping car	8		8
105 Parlor and chair car.....	2,838		2,838
108 Other passenger-train	5,935		5,935
109 Milk	11,036		11,036
110 Switching	371,852	161,031 @	210,821
111 Special service train.....	1,241		1,241
112 Other freight-train	102,002		102,002
131 Dining and buffet.....	22,427		22,427
132 Hotel and restaurant.....	68,995		68,995
133 Station, train and boat privileges	2,465		2,465
134 Parcel room	3,708		3,708
135 Storage—freight	825		825

(Defendants' Exhibit 88—Continued.)

Account	As reported to Department of Public Works	Adjustments	Intrastate revenues revised
136 Storage—baggage	1,661		1,661
137 Demurrage	9,741		9,741
142 Rents of bldg. and other property	6,014		6,014
143 Miscellaneous	50,220		50,220
151-152 Joint facility—net debit....	10,170		10,170
Total.....	\$5,802,530	\$530,637	\$5,271,895

*Represents revenue on foreign commerce.

@Represents switching in connection with interstate operations.

[2391]

DEFENDANTS' EXHIBIT 88, PAGE 10

Northern Pacific Railway Company

State of Washington

October 22-28, 1933.

Amount of intrastate operating expenses week of October 22-28, 1933 as per attached detail.....	\$ 75,078.42
Revenue net ton miles.....	7,629,079
Operating expense cost per revenue net ton mile (cents) .....	.98411

Year 1933

Total freight operating expenses on above basis for year 1933	
Revenue net ton miles, Washington intrastate Year end. Dec. 31, 1933.....	334,493,591
Operating expense cost per revenue net ton mile as above for week of Oct. 22-28, 1933 (cents).....	.98411
Total freight operating expenses.....	3,291,785

[2392]

(Defendants' Exhibit 88—Continued.)

DEFENDANTS' EXHIBIT 88, PAGE 12

Northern Pacific Railway Company

ANALYSIS OF OPERATING EXPENSES AS APPLICABLE TO WASHINGTON INTRASTATE FREIGHT TRAFFIC OCT. 22 TO 28, 1933

Washington Intrastate Traffic

Train and engine wages.....	\$ 9,826.25	
Fuel for locomotives, water, lubricants, other supplies and engine house ex- penses	6,683.07	
Locomotive repairs (road service).....	4,592.71	
Yard expenses	9,104.69	
Freight car repairs, depreciation and retirements	9,552.01	
Steam locomotives, depreciation and retirements	1,187.64	
Station employees and station supplies and exp.	9,603.60	
Miscellaneous transportation accounts	2,877.65	
Miscellaneous maintenance of equipt. accts.	1,477.30	
Maintenance of way and structures.....	11,202.01	
Traffic expenses	3,086.41	
General expenses	5,945.44	
Transportation for Investment Cr.....	60.36	
<hr/>		
Total freight operating expenses.....		\$75,078.42
		[2393]

(Defendants' Exhibit 88—Continued.)

DEFENDANTS' EXHIBIT 88, PAGE 14

Northern Pacific Railway Company

FREIGHT CAR REPAIRS, DEPRECIATION AND RETIREMENTS—STATE OF WASHINGTON, YEAR 1933

Freight train car repairs, average of 3 years ending Dec. 31, 1933.....	\$565,463.71
Depreciation, year 1933.....	594,307.22
Retirements, year 1933.....	17,579.23
	<hr/>
	\$1,177,350.16
Amount applicable to week of Oct. 22 - 28, 1933, 7/365 or 1.918%.....	22,581.58
Intrastate proportion based on car miles during test period	42.30
Amount as assigned to intrastate freight traffic.....	9,552.01
	[2394]

DEFENDANTS' EXHIBIT 88, PAGE 15

Northern Pacific Railway Company

STEAM LOCOMOTIVES, DEPRECIATION AND RETIREMENTS
STATE OF WASHINGTON, YEAR 1933

	<u>Year 1933</u>	<u>Idaho Division</u>	<u>Tacoma Division</u>	<u>Total</u>
Steam Locomotives Depreciation.....	\$82,379.76	\$125,835.75	\$208,215.51	
“ “ Retirements	1,761.51	2,638.24	4,399.75	
Total.....	84,141.27	128,473.99	212,615.26	
Amount applicable to week of Oct. 22-28, 1933, 7/365 or 1.918%.....	1,613.83	2,464.13	4,077.96	
Less amount used in terminal studies	368.84	823.79	1,192.63	
	1,244.99	1,640.34	2,885.33	
Intrastate proportion based on gross ton miles	22.77	55.12		
Amount as assigned to intrastate freight traffic	283.48	904.16	1,187.64	
				[2395]

(Defendants' Exhibit 88—Continued.)

DEFENDANTS' EXHIBIT 88, PAGE 16

Northern Pacific Railway Company

STATE OF WASHINGTON

YEAR 1933

Station Employees—Freight.....	\$641,150
Station Supplies—Expenses.....	39,809
	<hr/>
	\$680,959

Tons carried Washington 1933:

Intrastate	3,776,861	65.39%
Interstate	1,998,672	34.61%
	<hr/>	<hr/>
	5,775,733	100%

Adjusted tonnage:

Logs	2,000,463	X1	2,000,463	
Other intrastate	1,776,598	X2	3,552,796	
	<hr/>		<hr/>	
	3,776,861	65.39	5,553,259	73.53
Interstate	1,998,872	X1 34.61	1,998,872	26.47
	<hr/>		<hr/>	<hr/>
	5,775,733	100%	7,552,131	100%

Dividing Station Employees and Station Supplies on above basis gives
for Washington Intrastate.....

73.53% or \$500,709

Amount as applicable to week of Oct. 22-28, 1933

7/365 or 1.918%.....\$9,603.60

[2396]

(Defendants' Exhibit 88—Continued.)
DEFENDANTS' EXHIBIT 88, PAGE 19

Northern Pacific Railway Company

**MAINTENANCE OF WAY—STRUCTURES
 WASHINGTON INTRASTATE FREIGHT TRAFFIC**

	<u>Idaho Division</u>	<u>Tacoma Division</u>	<u>Total</u>
Average Maintenance of Way Structures—Freight 3 years ended Dec. 31, 1933.....	\$499,257.79	\$1,027,538.44	\$1,526,796.23
Week of Oct. 22-28, 1933 7/365 or 1.918%.....	9,575.75	19,708.18	29,283.93
Less amount as used in terminal studies	836.01	3,052.56	3,888.57
Total M. W. Structures— Freight	8,739.74	16,655.62	25,395.36
Intrastate proportion based on freight car miles for test week Oct. 22-28, 1933 as follows	22.71	55.34	
Intrastate	\$1,984.79	\$9,217.22	\$11,202.01
Interstate	6,754.95	7,438.40	14,193.35
			[2397]

DEFENDANTS' EXHIBIT 88, PAGE 20

Northern Pacific Railway Company

**APPORTIONMENT OF TRAFFIC EXPENSES TO INTRA-
 STATE, STATE OF WASHINGTON, YEAR 1933.**

Traffic Expenses Freight

State of Washington, Year 1933.....\$246,089

Tons of revenue freight

Intrastate3,776.861 65.39

Interstate1,998,872 34.61

5,775,733 100%

Washington intrastate proportion..... 160,918

Week of Oct. 22-28, 1933, 7/365 or 1.918%..... 3,086.41

[2398]

(Defendants' Exhibit 88—Continued.)

DEFENDANTS' EXHIBIT 88, PAGE 21

Northern Pacific Railway Company
State of Washington

GENERAL EXPENSES

State of Washington—Freight—Year 1933

Total Freight Operating Expenses.....	\$8,002,333
Less General Expenses.....	633,648

Total Operating Expenses, Freight (Exclusive of General).....	\$7,368,685
--	-------------

Ratio of General Expenses to total excluding General.....	8.60%
--	-------

Washington Intrastate Freight Traffic

Freight Operating Expenses Intrastate

Week of Oct. 22-28, 1933

(excl. General)	\$69,132.98
-----------------------	-------------

General Expenses, 8.60% of 69,132.98	5,945.44
--------------------------------------	----------

[2393]

DEFENDANTS' EXHIBIT 88, PAGE 22

Northern Pacific Railway Company

TRANSPORTATION FOR INVESTMENT CR.

STATE OF WASHINGTON—YEAR 1933—\$7,227.30

Amount applicable to week of Oct. 22-28, 1933.

7/365 or 1.918%.....	138.62
----------------------	--------

Washington intrastate freight proportion.....	\$60.36
---	---------

Ratio of car miles in intrastate traffic.	[2400]
---	---------------

DEFENDANTS' EXHIBIT 89

For Identification

is a certified copy of a portion of Defendants' Exhibit 11 filed October 19, 1934, in the case of State of Washington vs. Northern Pacific Railway Com-

pany, Cause No. 15415, in the Superior Court in and for the State of Washington for Thurston county. The portions of said exhibit 11 not included in Defendants' Exhibit 89 herein are indicated by stars and consist in each case of the details of the figures indicated as "Grand Total" in each case segregated under the following headings: "Maintenance of Way & Structures," "Maintenance of Equipment," "Transportation," "General" and "Summary." Said Defendants' Exhibit 89 is as follows: [2401]

GRAND TOTAL	9582.77	756.15	12 67
-------------	---------	--------	-------

NORTHERN PACIFIC RAILWAY COMPANY

TERMINAL COST STUDY

Statement of Net Engine Hour Costs

Station	Auburn, Wash.	From June 3, 1934	To June 9, 1934
Acct. No.	Description	Expense for Test Period	Net Engine Hours Cost Per Engine Hour
*****	*****	*****	*****
	GRAND TOTAL	3955.93	325.74 12.14

GRAND TOTAL	3955.93	325.74	12.14
-------------	---------	--------	-------

Station Tacoma, Wash.		From June 3, 1934 To June 9, 1934	
Acct. No.	Description	Expense for Test Period	Net Engine Hours Cost Per Engine Hour
*****	*****	*****	*****
GRAND TOTAL		7035.09	589.51
			11.93

GRAND TOTAL	7035.09	589.51	11.93
-------------	---------	--------	-------

Station Centralia, Wash. From June 3, 1934 To June 9, 1934

[illegible]

Station Aberdeen, Wash. From June 3, 1934 To June 9, 1934

[illegible]

Station Hoquiam, Wash. From June 3, 1934 To June 9, 1934

<u>Acct.</u>	<u>Description</u>	<u>Expense for</u>	<u>Net</u>	<u>Cost Per</u>
<u>No.</u>		<u>Test Period</u>	<u>Engine Hours</u>	<u>Engine Hour</u>
*	*	*	*	*
*	*	*	*	*
*	*	*	*	*
*	*	*	*	*
*	*	*	*	*
*	*	*	*	*
* * *		537.74	48.50	11.07
	GRAND TOTAL			

DEFENDANTS' EXHIBIT 90

For Identification

is a certified copy of a part of the testimony of M. G. Crawford, a witness called on behalf of the Northern Pacific Railway Company in the case of State of Washington, Plaintiff, vs. Northern Pacific Railway Company, Defendants, in Cause No. 15415 in the Superior Court of the State of Washington for Thurston County. Said testimony, so far as material, is as follows:

My name is M. G. Crawford, and my occupation, assistant general superintendent of Transportation for the Northern Pacific Railway. I have charge of the car supply and the interchange of cars and the records on that matter. You ask me to state whether there is any credit on account of car hire applicable to local business in Washington. I would say that in the account of equipment rentals, car hire, there is no net credit accruing on intrastate business in the State of Washington. This car hire is the amount which railroads pay to each other for the use of cars on the other line. It includes the per diem rate of a dollar a day. If the Northern Pacific had a car on the Great Northern, the Northern Pacific would be credited by the Great Northern with a dollar a day for that car while it was on the Great Northern. There is no net credit in favor of the Northern Pacific for intrastate car hire items. The reason that there is no credit in the matter of car hire on intrastate

traffic in so far as the Northern Pacific is concerned is that it is of such a nature that to a very large extent it is not delivered to the Northern Pacific connections, and the only way that car hire accruals could occur would be through the collection possibly of rental from our connections. You ask if it is the fact that there is rather a debit balance due by the Northern Pacific to connecting lines on account of Washington local business. The character of the business interchange is of such a nature that the debits and credits on that class of traffic would just about offset each other. The Northern Pacific does not keep currently any accounts as to car hire as between local and inter- [2404] state in Washington. [2405]

DEFENDANTS' EXHIBIT 91

For Identification

is a blank card of which the following is a copy:

N. P. Class..... Mo.,.....1928
Com.
..... To.....

Cars		Cwt.		Earnings	
Prorate	West	East	Total	Wash. %	Wash. Pro.
Rate .....	.....	.....	.....	.....	.....
Sps .....	.....	.....	.....	.....	.....
Up .....	.....	.....	.....	.....	.....
Mileage	Tons				
Miles	Ton Miles		%		Earnings
East					
West					

DEFENDANTS' EXHIBIT 92

For Identification

is a blank card of which the following is a copy:

N. P. Class..... Mo.,.....1928

Com.

..... To.....

Cars

Cwt.

Earnings

Prorate	West	Total	East	Wash. %	Wash. Pro.
Rate
Sps
Up

Mileage

Tons

Miles	Ton Miles	%	Earnings
-------	-----------	---	----------

East

West

Division

Proportion

Via	and	.....	.....	.....
Via	and S P & S	.....	.....	.....
Via Pasco	and N. P	.....	.....	.....
Via Spokane	and NP	.....	.....	.....
Via Laurel-Blgs.	and CB & Q	.....	.....	.....
Via Wendover	and CS	.....	.....	.....
Via Sixela	and FW & DC	.....	.....	.....
	All Other	.....	.....	.....
Via	and Lines	.....	.....	.....
Total		.....	.....	.....
Total N P. CB & Q and Subsidiaries				

[2407]

DEFENDANTS' EXHIBIT 93

For Identification

consisted of a number of boxes of cards.

DEFENDANTS' EXHIBIT 94

For Identification

is a blank card of which the following is a copy:

INTERLINE CARLOAD FREIGHT

G. N. and S. P. & S.

Weight..... Month....., 1935

Point of origin.....

Point of destination.....

No. of cars..... Commodity.....

G. N. TRANSFER POINT

☐☐☐☐

M. Traf. Laurel

Vanc.

Portland

S. P. & S. TRANSFER POINT

☐☐☐☐

Spokane Pasco

Vanc.

Portland

EARNINGS

S. P. & S.

\$.....

O. T.

.....

O. E.

.....

U. R.

.....

G. C. & W. R.

.....

Total S. P. & S. system

.....

G. N.

.....

G. N. north of Vancouver

.....

Total G. N. plus S. P. & S. system

.....

C. B. & Q.—C. S.—F. W. & D. C.

.....

All other roads:

.....

Grand total

.....

Source: Abs., Interline Waybills, Vol.....

Transcribed by..... Checked by.....

Card

Earnings G. N. plus S. P. & S. system \$.....

	G. N.	S. P. & S. System
Per cent of		
mileage		%
Actual earnings	\$	\$
Mileage prorate	\$	\$
Difference	\$	\$

Computed by.....

Checked by.....

[2408]

DEFENDANTS' EXHIBIT 95

For Identification

is a blank card of which the following is a copy:

INTERLINE CARLOAD FREIGHT

N. P. and S. P. & S.

Weight..... Month....., 1935

Point of origin.....

Point of destination.....

No. of cars..... Commodity.....

N. P. TRANSFER POINT

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
M. Traf.	Laurel	Vanc.	Portland

S. P. & S. TRANSFER POINT

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Spokane	Pasco	Vanc.	Portland

EARNINGS

S. P. & S.	\$.....
O. T.	.....
O. E.	.....
U. R.	.....
G. C. & W. R.	.....

Total S. P. & S. system
 N. P.
 N. P. north of Vancouver

Total N. P. plus S. P. & S. system
 C. B. & Q.—C. S.—F. W. & D. C.
 All other roads:

Grand total
 Source: Abs., Interline Waybills, Vol.
 Transcribed by..... Checked by.....

Card

Earnings N. P. plus S. P. & S. system

	N. P.	S. P. & S. System
Per cent of		
mileage		%
Actual earnings	\$	\$
Mileage prorate	\$	\$
Difference	\$	\$
Computed by.....		
Checked by.....		

[2409]

DEFENDANTS' EXHIBIT 96

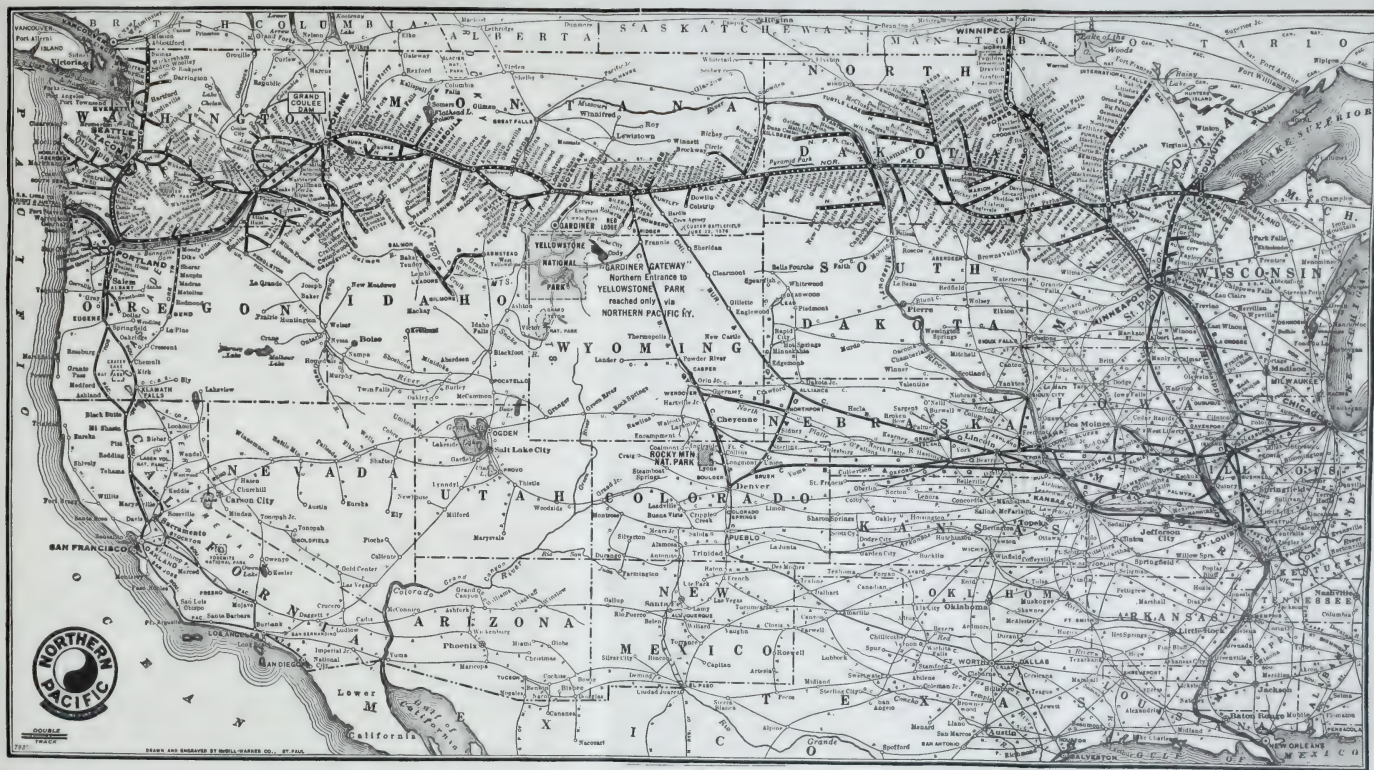
For Identification

consisted of a number of boxes of cards.

DEFENDANTS' EXHIBIT 97

is a system map of the Northern Pacific Railway Company. On said map the "Northern Pacific Railway System" is shown in red, the Chicago, Burlington & Quincy R. R. is shown in black, the Spokane, Portland & Seattle Railway is shown in

purple, the Colorado & Southern Railway Lines are shown in orange, and the Trinity & Brazos Valley Railway is shown in brown. The lines marked orange are shown as extending from Wendover, Wyoming, via Denver, Colorado, to Fort Worth, Texas. The lines colored brown are shown as extending from Fort Worth to Houston, Texas. So far as material, the following is a correct copy of said Exhibit: [2410]



DEFENDANTS' EXHIBIT 98

purports to be a letter addressed to the Tax Commission of the State of Washington and signed "Northern Pacific Railway Company by Charles A. Murry, Western Tax Attorney, By M. T. Sanders, Tax Commissioner," and is dated at Seattle, Washington April 10, 1930, and contains the following unsigned notation: "Filed with Tax Commission by Mr. Sanders at N. P. Valuation hearing April 10, 1930."

In so far as material the letter reads as follows:

"To the Honorable the Tax Commission of the State of Washington.

"Gentlemen:

"As the basis for the assessment to be made for the year 1930 upon the operating property of the Northern Pacific Railway Company in the State of Washington, said company herewith presents to and files with you:

* * * * *

"V. A schedule showing the deductions which we claim should be deducted from the market value of the total stock and bonds in order to arrive at the total market value of the stock and bonds applicable to the operating property of said company.

* * * * *

"We * * * respectfully ask that all of the above facts and figures be taken into consideration by you in fixing the assessment for 1930,

and that you accord to us this year a material reduction from your assessment of 1929.”

Among other schedules attached to said letter, is the following:

“Northern Pacific Railway Company
 “Allocation of value to State of Washington,
 “Value of operating property, stock & bond
 method.

“Average market value of stock and bonds
 outstanding as of Dec. 31, 1929, on basis of av-
 erage quotations for five years ended Decem-
 ber 31, 1929,

“Stock	\$216,070,000
--------	---------------

“Bonds	297,734,710
--------	-------------

Total	\$513,804,710
-------	---------------

“Deductions account of certain non-operat-
 ing property:

* * * * *

“6. Spokane, Portland & Seattle Ry. Co.

“Average annual amount of income for 5
 years ended Dec. 31, 1929 (\$542,185)—
 capitalized at 6% 9,036,417.”

[2412]

DEFENDANTS' EXHIBIT 99

purports to be a letter addressed to the Tax Com-
 mission of the State of Washington and signed
 “Northern Pacific Railway Company by Charles

A. Murray, Its Western Tax Attorney by E. A. McCrary, Its Tax Commissioners," and is dated at Seattle, Washington, April 27, 1931. It contains the following unsigned notation: "N. P. Ry. Statement Filed by Chas. A. Murray Western Tax Attorney, April 27, 1931," and is stamped: "Received Apr. 27, 1931 Tax Commission."

In so far as material the letter reads as follows:

"To the Honorable the Tax Commission of the
State of Washington.

"Gentlemen:

"As the basis for the assessment to be made for the year 1931 upon the operating property of the Northern Pacific Railway Company in the State of Washington, said company herewith presents to, and files with you:

* * * * *

"5. A schedule showing the deductions which we claim should be deducted from the market value of the total stock and bonds in order to arrive at the total market value of the stock and bonds applicable to the operating property of said company, and also total market value arrived at in such manner.

* * * * *

"We * * * respectfully ask that all of the above facts and figures be taken into consideration by you in fixing the assessment for 1931, and that you accord to us this year a valuation of not to exceed \$75,000,000 for 1931."

Among other schedules attached to said letter is the following:

“Northern Pacific Railway Company

“Allocation of value to State of Washington—

“Value of operating property—stock and bond method.

* * * * *

“Average market value of stock and bonds outstanding as of Dec. 31, 1930, on basis of average quotations, for 5 years ended December 31, 1930,

“Stock \$219,480,000

“Bonds 300,788,690

“Total \$520,268,690”

“Deductions a/c certain nonoperating property

* * * * *

“6. Spokane, Port. & Seattle Ry. Co.

“Average annual amount of income for 5 years ended Dec. 31, 1930—\$507,611—capitalized at 6% 8,460,183.

* * * * *

[2413]

DEFENDANTS' EXHIBIT 100

is a certified copy of the printed Transcript of the Record in the case of Great Northern Railway Company, Appellant, vs. J. J. Weeks, State Tax Commissioner, et al., Appellees, Appeal No. 10,221 in the U. S. Circuit Court of Appeals for the

Eighth Circuit, the same being an appeal from the U. S. District Court for the District of North Dakota, in a case wherein said appellant was plaintiff, and said appellees were defendants.

The transcript consists of 329 printed pages (27 of which pages are blank), which include 51 printed pages of exhibits, statistics and tables.

From said Transcript it appears that on February 15, 1934, the Great Northern Railway Company (hereinafter referred to in connection with Defendants' Exhibit 100 as the "G. N.") filed a bill of complaint in part as follows:

"Plaintiff complains of the above named defendants and alleges that:

"(1) Plaintiff is a corporation organized under the laws of the State of Minnesota and now operates and for many years past has operated a railroad extending from St. Paul and Duluth, Minnesota, and Superior, Wisconsin, through the States of Minnesota, North Dakota, South Dakota, Iowa, Montana, Idaho, Washington and Oregon and into the State of California and the Dominion of Canada and lines running into or through thirty counties in North Dakota. Its head office and principal place of business is at St. Paul, Minnesota. It is and has been engaged mainly in foreign commerce and commerce among the states as a common carrier of freight and passengers by said railroad and to a lesser extent in the transportation wholly within each of the states above named including the State of North Dakota." (p. 2)

*

*

*

*

*

*

*

“(2) * * * Defendant J. J. Weeks as State Tax Commissioner is charged with the duty of enforcing collection of said taxes in the event of failure of said county officers to collect the same.” (p. 3)

* * * * *

[2414]

“(4) The Constitution and Statutes of North Dakota in effect now and at all times herein mentioned, contained the following provisions:

* * * * *

“Section 2122, Supplement to the 1913 Compiled Laws, 1913-1925:

‘All property subject to taxation, shall be assessed at its true and full value in money.’

* * * * *

“Section 2242, Compiled Laws of 1913:

‘The State Board of Equalization shall at its annual meeting in August in each year, assess at its actual value the franchise, roadway, roadbed, rails and rolling stock of all railroads operated in this state.’ (p. 4)

* * * * *

“(7) For the year 1933, the State Board of Equalization made a purported assessment for plaintiff’s railway property fixing the value thereof within the State of North Dakota at \$78,832,888, whereas the actual true and full value in money of plaintiff’s property was at the date of said assessment not more than \$45,000,000.” (p. 5)

* * * * *

“(8) * * * The value of plaintiff’s property in North Dakota can only be determined either by first determining the value of its entire system and then allocating a proper proportion thereof to the property in North Dakota, or else by determining the net earnings from all traffic moving over said lines in North Dakota and capitalizing such net earnings. Such net earnings can only be determined by adding to the revenues from intrastate traffic moving over said lines, a proper proportion of the revenues from interstate traffic moving partly over said lines and deducting the cost of moving such traffic.

“(9) * * * For the year 1932 and many preceding years, the assessing authorities of North Dakota determined a value for plaintiff’s railroad system * * *. Said assessing authorities then allocated to [2415] North Dakota as the value of plaintiff’s property in North Dakota a portion of said system value equal to the average proportion which certain figures for North Dakota bore to the corresponding figures for plaintiff’s entire railroad system. The figures used in determining said proportions were the following: (p. 7)

“(1) Miles of all track.

“(2) Amount of physical property as measured by cost of reproduction less depreciation.

“(3) Cars and locomotives moved one mile.

“(4) Tons of freight and passengers moved one mile.

“(5) Gross earnings, the gross earnings in North Dakota being computed by adding to the

revenues in North Dakota from intrastate traffic a proportion of the revenue from all interstate traffic passing into or through North Dakota equal to the proportion which the miles of track in North Dakota used for moving such traffic bore to the total miles of track used for moving such traffic.

“(10) In the year 1932, the State Tax Commissioner submitted a report to the Board of Equalization computing value for plaintiff’s property in North Dakota by the method above outlined at \$76,115,715; he also made an allocation of the same system value to North Dakota by a so-called “alternative method”, using for the purpose of allocation, only the factors numbered 3, 4 and 5 in the above list, and thereby computed a value for plaintiff’s property in North Dakota of \$79,417,825. The Board thereupon assessed plaintiff’s property in North Dakota at \$78,850,024 for 1932.” (p. 8)

* * * * *

[2416]

“(11)” Plaintiff alleges that the values of its railroad system as computed by the assessing authorities of North Dakota as aforesaid were excessive because the amounts deducted from stock and bond values as the value of plaintiff’s properties and securities not forming a part of its railroad system were inadequate and less than the full values of such properties and securities, and because plaintiff’s net earnings were capitalized at an inadequate rate per cent; and in the years 1931, 1932 and 1933 said system values as so computed

were particularly excessive because undue weight was given to earnings and stock and bond values during the years 1928 and 1929. Abnormally active business conditions in 1928 and 1929 had produced high earnings and high stock and bond values in those years. Said business and economic conditions had disappeared in the later years and plaintiff's current and prospective earning power and stock and bond values had greatly decreased so that the weight given to figures as of 1928 and 1929 by said assessing authorities was excessive. This is particularly true in the case of stock and bond values. The current prices of stocks and bonds reflect the judgment of investors as to the weight to be given to all past as well as current earnings, and current prices reflect past as well as present experience. To average current stock and bond prices and the prices for past periods gave double weight to past conditions and unduly increased the amounts computed as the plaintiff's system values. (p. 9)

“(12)” At all of the times herein mentioned, the use of the factors numbered 1, 3, 4 and 5 in the list set forth in paragraph IX hereof, or any of them, in allocating the value of plaintiff's system to North Dakota have resulted in assessing and taxing in North [2417] Dakota property owned by plaintiff and located in other states and in an unlawfully and unreasonably high allocation of plaintiff's system value to North Dakota and in a gross over-valuation and over-assessment of plaintiff's property in North Dakota.

“North Dakota is a comparatively level prairie state of relatively cheap railroad construction and without expensive terminals whereas the balance of plaintiff’s system includes all of its larger and more expensive terminals and lies largely in mountain topography requiring extensive cuts and embankments, tunnels, bridges, snow-sheds and other relatively expensive construction. Branch lines constitute 61% of plaintiff’s mileage in North Dakota and only 45% on the balance of its system. The average mile of line in the plaintiff’s system outside of North Dakota contained approximately 66 $\frac{2}{3}$ % more physical property and would be approximately 66 $\frac{2}{3}$ % more expensive to build than the average mile of plaintiff’s line in North Dakota. The average mile of plaintiff’s line in North Dakota includes less grading and embankment, less bridges, tunnels and snow protection, less terminal property and 40% less total physical property than the average mile on the balance of the plaintiff’s system. The average cost of reproduction less depreciation per mile of plaintiff’s railroad line in” (p. 9) “North Dakota as determined by the Interstate Commerce Commission, plus the cost of addition and improvements to December 31, 1932, was only 54.83% as great as that for the balance of the system outside of North Dakota.

“(13) The average mile of plaintiff’s road in North Dakota is also less valuable from the standpoint of traffic density and earnings, and traffic

production than the average mile on the balance of plaintiff's system." (p. 10)

* * * * *

"(14) The use of the proportion of miles of road or track as [2418] an allocation factor for North Dakota is an exceedingly inaccurate and excessive measure of physical property in the case of the plaintiff's railroad system for the reason that some miles contain many times as much physical property as others and in general, miles of plaintiff's road outside of North Dakota contain much more physical property than the average mile of road in the state.

"The use of the proportion of tons of freight or passengers moved one mile or of cars or locomotives moved one mile as an allocation factor for North Dakota is exceedingly inaccurate and excessive as a measure of earnings or of service performed, because such a movement on the average in North Dakota involves the use of less property and indicates less service and less earnings than a similar movement over an average mile of plaintiff's track outside of North Dakota." (p. 10)

"Rates for the movement of through traffic are in general established on a basis sufficient to pay the total operating expenses of the movement plus a return on the investment in the property required to make the movement. Where the movement in a particular state, because of mountain location or extensive terminals, requires more than average operating expenses and more than average invest-

ment, some addition must be made to the through rate in order to cover such excess. A mileage pro-rate of the through charge, therefore, credited to North Dakota, which is a state of cheaper than average construction and operation, a portion of the revenues collected for service actually performed in states of more expensive construction and operation." (p. 11) [2419]

* * * * *

"(15)" The value of plaintiff's railroad system had greatly decreased between the date of assessment in 1932 and the corresponding date in 1933. The net earnings of plaintiff's railroad system for the year 1931, the last calendar year preceding the 1932 assessment were \$12,669,420, while for 1932, the last calendar year preceding the 1933 assessment, they had decreased to \$1,290,551. The average annual net earnings of the system for the three calendar years and for the five calendar years, respectively, preceding each date of assessment were as follows:

	3 Year Period	5 Year Period
Preceding the 1932 assessment.....	\$22,346,483	\$25,507,212
Preceding the 1933 assessment.....	\$11,957,493	\$19,924,814

The total value of plaintiff's stocks and bonds as represented by their average selling price was \$461,845,051.00 for the calendar year preceding the 1932 assessment \$296,301,177 for the calendar year preceding the 1933 assessment, and \$229,485,500 as of the date of assessment, all without any deduc-

tions for the value of properties and securities not forming a part of plaintiff's railroad system.

A computation of the value of plaintiff's property in North Dakota for 1933 by the methods used in 1932 and previous years as above described would have produced an assessment of plaintiff's property in North Dakota approximately fifteen million dollars less than the said assessment actually made by the State Board of Equalization. In making its said assessment for 1933, the said State Board of Equalization not only failed to correct the said excessive factors of allocation but in effect applied them (p. 11) to a system value as of the preceding year and failed to make any reduction whatever because of the reduction in the value of plaintiff's railroad system. (p. 12)

* * * * *

“(19)” All other property subject to assessment and taxation in North Dakota is required to be assessed at its true and full value in money and plaintiff alleges upon information and belief that at [2420] all times herein mentioned, all such other property was so assessed. The assessment actually made of plaintiff's property as aforesaid imposed upon it an unwarranted share of the tax burden of the state and materially discriminated against plaintiff as compared with other taxpayers and owners of other property.

“The collection of said taxes would deprive plaintiff of property without due process of law and of the equal protection of the law, contrary to

the provisions of the 14th Amendment to the Constitution of the United States and would improperly burden interstate commerce and obstruct plaintiff in the transportation of persons and property in interstate commerce under the Constitution of the United States and in violation of the provisions of said Constitution.

“(20) The exaggeration and distortion in the allocation factors mentioned in paragraph IX hereof, as applied to plaintiff’s railroad system can be removed and corrected only by some method which will give proper weight to the proportion of physical property, traffic and earnings in the state. This can be done by adding to the total revenues in North” (p. 13) “Dakota from intrastate traffic, a proportion of earnings from interstate traffic moving into or through North Dakota equal to the proportion of property used in carrying such traffic and the cost of performing the service and then determining the net earnings for North Dakota by deducting from the gross revenues so determined the operating expenses incurred in moving the traffic. The proportion of net earnings in North Dakota to system net earnings will determine the proportion of plaintiff’s system value in North Dakota, or a capitalization of the net earnings in North Dakota thus determined would determine the value of plaintiff’s property in North Dakota.” (p. 14)

* * * * *

“(23) The average yearly net earnings from plaintiff’s property in North Dakota determined in the manner set forth in paragraph XX [2421] above for the five calendar years preceding the date of assessment in 1933 were not more than 13.5% of the total net earnings of plaintiff’s railroad system. An allocation of a system value of \$332,080,233 to North Dakota on said percentage produces a value for plaintiff’s property in North Dakota on said assessment date of \$44,830,831. Plaintiff believes and alleges” (p. 15) “that the true and full value in money of its property in North Dakota on the date of assessment did not exceed \$45,000,000.” (p. 16)

* * * * *

“Wherefore, * * * plaintiff * * * prays:

* * * * *

“That 43% of the taxes so assessed and levied against plaintiff should be adjudged and decreed to be unequal, discriminatory, illegal and void and that the same be cancelled upon the records of said counties.” (p. 17)

* * * * *

Said Transcript further shows that on October 24, 1934, the plaintiff in said suit proposed findings of fact which were refused by the trial court. Said proposed findings are in part as follows:

“(8) In 1932 and for many preceding years the assessments of plaintiff’s property in North Dakota had been determined in the following manner:” (p. 46)

“A value for plaintiff’s entire railroad system was determined * * *. * * * the average system value thus obtained was allocated to the railway operating property in North Dakota in the average of the ratios that the following units in North Dakota bore to those of the entire system:

“Miles of track, car miles and locomotive miles, ton miles and passenger miles, gross revenue, and physical property. In the gross revenue credited to North Dakota for the purpose of fixing this ratio was included a mileage prorate of the plaintiff’s revenue on all interstate freight traffic passing into or through North Dakota.” [2422]

* * * * *

“(10) At all of the times herein mentioned, the plaintiff’s railway system has included extensive terminals and costly tunnels, bridges, snowsheds and other mountain construction located in other states with no counterpart in North Dakota and has contained approximately 75% more physical property per mile of all track and nearly twice as much property per mile of road outside North Dakota than inside. As a result of terminal switching, mountain operation and other physical conditions, the average cost of plaintiff’s operations per track mile, per car mile, per locomotive mile and per ton mile outside North Dakota has been substantially greater than inside and in the operation of the average locomotive and car mile in freight service outside North Dakota, substantially more tonnage has been moved than in similar operations inside

the state. An allocation of plaintiff's system value to the property, in North Dakota upon the ratio described in finding No. 8 has credited to the property in North Dakota many millions of dollars worth of values belonging to properties located in other states and be-" (p. 47) "yond the jurisdiction of North Dakota and the assessments based upon said allocations have resulted in effect, for several years last past, in levying taxes amounting to several hundred thousand dollars each year by governmental units in North Dakota against properties located in other states. At all of said times the assessing officers of the State of North Dakota had been and were advised by plaintiff of the facts set forth in this finding.

"(11) During each of the years 1928 to 1933, inclusive, not over 13% of the total net earnings and of the total net earning capacity, of the plaintiff's railroad system has been contributed by plaintiff's operating property in North Dakota and accordingly the value of plaintiff's property in North Dakota has not exceeded 13% of the [2423] value of its entire railway system, while the use of the allocation factor mentioned in finding No. 8 has resulted in allocating to plaintiff's property in North Dakota more than 18% of plaintiff's system value."

* * * * *

"(12) A computation of the value of plaintiff's railway system in 1933 by the method described in finding No. 8 would unlawfully increase the assess-

ment of plaintiff's property in North Dakota by giving unjustified weight and effect to high earnings and high stock and bond prices in the years 1928 and 1929, and insufficient weight and effect to the lower earnings and lower stock and bond prices of 1930, 1931 and 1932." (p. 48)

Said Transcript further shows that

P. B. BEIDELMAN,

a witness called on behalf of the plaintiff in said suit, testified on

Direct Examination

in part as follows:

"My name is P. B. Beidelman. I reside in St. Paul, Minn., and am Freight Traffic Manager of the Great Northern Railway system. I am head of the Freight Traffic Department and the highest freight traffic officer of the company with the exception of the Executive Department.

"I have been in the Freight Traffic Department of the Great Northern Railway for 34 years and have entire charge of all rate matters and freight solicitation. One of my duties is to make yearly forecasts of the freight earnings possibilities of the system which are used in determining the expenditures for seasons ahead."

* * * * *

"As to the extent to which different topographical conditions and different construction and oper-

ating costs on different sections of the railroads have been recognized in fixing freight rates, the Interstate Commerce Commission in a number of cases have established a higher level of rates west of the North Dakota-Montana line than east of that line. In 179 ICC 571, rates on oil well supplies were [2424] 20% higher west of the line than east. In 136 ICC 337, rates on reinforced concrete pipe were made 15% higher west than east. They fix a scale to the North Dakota-Montana line and then say that the same scale will apply beyond but with the added percentage. We call this a laminated scale. They will say to use your lower scale for the full haul and then add an arbitrary amount for the haul in the higher-rated territory.

“The Court: And just where is that fact pertinent to the tax levy in any one of the states as you view it?

“My answer is that in establishing or dividing freight rates recognition must be given to the cost of transportation and investment in this territory traversed. In 203 ICC Reports 299 at 335, the Commission said: ‘Cost of service including the burden of carrying the necessary investment ought to be the factor of primary importance in fixing the division of joint rates.’ In this case, the divisions allowed by the Commission were equivalent to a mileage prorate with every mile west of the Missouri river computed at $1\frac{1}{4}$ miles. They recognized the cost of service and the heavy investment in the mountain lines, and it occurred to me that

it was equally pertinent in the assignment of taxes.

“In 108 ICC 605, a level of rates was established on cottonseed 15% higher in the west. In 190 ICC 611, livestock rates were made 10% higher in the western territory. In 147 ICC 581 and other cases, the Commission fixed class rates in Mountain-Pacific territory 15% higher than were fixed east of the Montana-Dakota line in 164 ICC 1. In 192 ICC 135, rates on petroleum products were made 10 to 15% higher for the Montana haul than to Western North Dakota. In 179 ICC 435 and 192 ICC 599, rates on refined petroleum average 10% higher in the west than in the territory east. [2425]

“To figure a rate under one of these laminated scales you take your through rate for the entire distance at the lowest” (p. 71) “scale and then make additions for the portion of the haul in higher-rated territories thus construction the entire rate.

“You could illustrate this by taking 3 strips of paper of different lengths with the longest at the bottom and the shortest at the top, the ends being even at what would be the more distant or the more expensive part of the haul. They are not published that way but this is given recognition in making the divisions. A mileage prorate of the entire rate in such a case would result in apportioning to the lower-rated part of the haul some of the additional earnings that the Commission allowed for the more costly part of the haul. The reason for this lamination is the difference in the cost of the haul in the

zone. They also consider traffic density and overhead.

"If there were only one line involved, the laminated scale would be spread out over the entire distance.

"As to the policy of the Great Northern in these matters, the history of our railroad or the history of any railroad in the west will show that the level of rates in the Mountain-Pacific territory has always been higher than in the prairie territory and in our prairie territory the level of rates increases as you go west from the Twin Cities getting into the more sparsely settled sections of North Dakota and Montana." (p. 72)

On

Cross Examination

Mr. Beidelman testified in part as follows:

"In these laminated rates we show just the one through rate and not the laminations. The income statements submitted in the tax reports do not show these laminated rates nor the higher rates on traffic in the west. And no information about laminated rates was before the State Board of Equalization in fixing the tax or in making the [2426] assessment.

"It is true today that transcontinental rates are fixed almost entirely upon a competitive basis with the Panama Canal and without regard to expenses of operation in various states; that is we make them

as low as we can and still have some profit over and above what we estimated to be our out-of-pocket cost.” (p. 73)

Said Transcript further shows that

OSCAR S. BOWEN,

a witness called on behalf of the plaintiff in said suit, testified on

Direct Examination

in part as follows:

“My name is Oscar S. Bowen. I reside in St. Paul and am Assistant to the Chief Engineer of the Great Northern Railway. I have charge of their valuation.

“I have had a total engineering experience in railroad work of 40 years including 7 years before I came with the Great Northern. I was office engineer at Spokane for 2 years and district engineer in charge of all work on 2 divisions for 10” (p. 73) “years. I was then made Assistant Chief Engineer and had charge of all work on the system from Williston west for 12 years. Since 1925, I have had charge of valuation work. Prior to 1925, I was the highest engineering officer of the company on the lines west of Williston. I have had charge of considerable construction work.

“In my present position, I have charge of all the work that is done by the company in connection with the Interstate Commerce Commission valua-

tions and keeping them up to date and the valuation records are all in my custody.”

* * * * *

“61.7% of the Great Northern Lines in North Dakota are classified by the Interstate Commerce Commission as branch lines. On the balance of the system in the United States the branch line percentage is 43.5%. So that there is a very much larger percentage of branch line mileage in North Dakota than on the balance of the system. In general the grid-iron lines running north and south on the [2427] map are all branch lines.

“The Great Northern Lines in North Dakota are of very materially lighter construction and are very materially less expensive than those on the balance of the system, first, because the topography in North Dakota lends to cheaper construction than in any other state along the Great Northern, and second, because such a large percentage of the lines in North Dakota are branch line construction permitting of steeper grades, more curvature and lighter steel and bridges.

“The topography in North Dakota is comparatively level. Minnesota is more rolling and has a number of water courses to cross. North Dakota is more level and has fewer water crossings. In Montana, the construction is very expensive on account of crossing the Rocky Mountains. In Idaho we follow the Kootenai river making construction heavy.

In Washington we have the Cascades making the construction in that state exceedingly heavy. Also the crossing of the Columbia river which is rather an expensive part of the line. We have a very small mileage in Oregon and California which is not very heavy construction." (p. 74)

" * * * The total grading in North Dakota is 27,974 yards per mile against 47,044 yards per mile on the remainder of the system. There is only 59.5% as much grading per mile in North Dakota. The percentage of North Dakota to the balance of the system in the different classifications of grading per mile is, common material 72%, hard pan 1.7%, loose rock 82½%, solid rock 4%. The tunnels in North Dakota per mile of road only amount to 4.6% as much as on the balance of the line in lineal feet per mile of road. North Dakota has 44.6% as many pounds of steel in bridges per mile of road, 50.2% as much timber and 46% as much concrete and 80.5% as much rail and 63.9% as many signals. There are no snowsheds in North Dakota."

* * * * *

[2428]

"The fact that even the rails in North Dakota are lighter per mile is accounted for by the larger percentage of branch lines in North Dakota which are constructed generally with rail weighing from 66 to 70 pounds per yard, while the main line of the system in general will run from 90 to 130 pounds per yard. There is no 130 pound rail in North Dakota.

The main line in North Dakota will run generally from 90 to 100 pounds per yard. There may be a little 110 pound. In the heavier grade sections on the balance of the system, we have considerable portion of 130 pound rail.

“North Dakota has no large car and engine repair shops. They have nothing but small shops capable of making light repairs. The largest and principal shops of the system are located at Superior, the Twin Cities, and on Puget Sound. In addition there are quite large engine and car shops in Minnesota, Montana and Washington but none in the State of North Dakota.

“There are not as many stations per mile of line in North Dakota as on the balance of the system. In North Dakota there is one station to every 5.668 miles of railway and for the balance of the system, there is one station to every 4.826 miles.” (p. 75)

* * * * *

“The Great Northern Railway has terminals on Lake Superior and at the Twin Cities and on Puget Sound out of proportion to the terminals on any other part of the system. * * * They have a reproduction cost less depreciation of nearly \$69,000,000 which is between 12 and 13% of the total reproduction cost less depreciation of the entire system. As measured by cost that would indicate that between 12 and 13% of the physical properties making up the railroad are located in these terminals. These terminals include 53 miles of road, 10 miles on Lake

Superior, 26 miles in the Twin Cities and 17 miles [2429] on Puget Sound. In the mileage in the Twin Cities, 8 miles are in St. Paul and 18 miles in Minneapolis. The total value of these terminals divided by the miles of road that they contain gives a value of about \$1,300,000 per mile of road." (p. 76)

Mr. Bowen then testified that the balance of the system outside of North Dakota has a cost per mile 196% of that in North Dakota, and including the lines in Canada 198% of the cost in North Dakota; that in other words, the cost per mile outside of North Dakota is almost twice that in North Dakota. (p. 77)

The Transcript shows that Mr. Bowen testified further on

Direct Examination:

"As to whether the construction by the Great Northern Railway Company of additional property outside North Dakota has ever reduced the miles of road outside the state and thereby increased the percent of total miles in North Dakota, I will say that in the State of Washington we first operated over the summit of the Cascades. We later built a tunnel about $2\frac{3}{4}$ miles long reducing the length of the line by 9 miles. At a considerably later date, we constructed a longer tunnel about 8 miles long, reducing the length of the line an additional 8 miles. About that same time we made a line revision west of Leavenworth reducing the length of the line

about 1 mile making an aggregate reduction of 18 miles in that vicinity. There are numerous other places on the railroad where we have had smaller reductions from $\frac{1}{4}$ mile to a mile, but this the largest reduction in one location that I have in mind. The total cost of the first three reductions in mileage that I mentioned was about \$22,000,000. These reductions had the effect of very much reducing operating expenses and would have the effect of increasing the system net railway operating income and they also increase the percentage of miles of road in North Dakota to those on the system. If miles of road were used as a means of [2430] allocating system value, the net result of creating several million dollars worth of additional property in the State of Washington would be to allocate a higher percentage of a higher system value to North Dakota. I think it would be possible for the Great Northern to operate over the Cascade mountains on a 1% grade without using any tunnel, but it would require a line between 80 and 100 miles longer than the present line which is 49 miles from Leavenworth to Skykomish. The road over the top between these points would be approximately three times as long as the present line through the tunnel and a movement over the top of the mountain on such a grade between those points would require three times as many locomotive miles, car miles, ton miles and passenger miles as is required on the present line through the tunnel. The effect of the construc-' (p.

77) "tion through the tunnel instead of over the summit is that the percentage of car and locomotive miles and ton and passenger miles operated in North Dakota is increased."

On

Cross Examination,

Mr. Bowen testified in part as follows:

" * * * When I said there were 18 miles of road in the terminals at Minneapolis and St. Paul that is the distance from the outside limit of the terminal in Minneapolis to the outside limit of the terminal in St. Paul and is the amount of main line operated over. There are a great many other side-tracks and switching tracks in those terminals. If you took all tracks into consideration, the difference between North Dakota and the balance of the system, the number of miles per terminal would probably not be so great. In the great terminals there may be 20 or 30 times as much track as there are miles of road.

"When I said that the cost of construction per mile of road was twice as great outside of North Dakota as inside, I was referring again to miles of road and not miles of track. [2431]

"One of the chief purposes of the construction of the tunnel out west was the elimination of snow-sheds. This snow-shed construction has been charged off of our books in our valuation of the railroad, at the completion of the long tunnel."

* * * * *

“My figures representing miles of road do not include miles owned by other companies over which we operate by trackage rights or which are leased. It includes only what are both owned and used.” (p. 78)

On

Redirect Examination,

Mr. Bowen testified as follows:

“If in a certain terminal there are 10 miles of road and 20 times as much of all tracks, a locomotive bringing a shipment into that kind of a terminal would move 10 miles, I presume. Locomotive mileage would be measured by miles of road and not by mile of track, and the same would be true” (p. 78) “of car miles on cars coming into the terminal and on ton miles and passenger miles. If interstate revenue were allocated in proportion to miles of haul, it would be miles of road rather than miles of all track that would enter into that computation.”

On further

Redirect Examination,

Mr. Bowen testified as follows:

“Referring to the three larger terminals at the Twin Cities, Superior and Puget Sound shown in my exhibit 4, I find that there are 158 miles of all track in the Superior-Allouez terminals, 266 miles of all track in the St. Paul-Minneapolis terminals,

and 113 miles of all track in the Delta-Everett and Seattle Terminals, a total of 537 miles of all tracks as compared with 53 miles of single main line or about 10 times as many miles of all tracks as of road miles. The reproduction cost less depreciation in these terminals per mile of all track is \$114,000 at Superior-Allouez, \$120,000 at St. Paul-Minneapolis and \$166,000 at Delta-Everett and Seattle, the average for all being \$128,000 per mile of all track. Averaging sidetracks, loading tracks, house tracks and everything else in these larger terminals, [2432] including main lines the average value per mile is a little over three times as much as the average mile in North Dakota.” (p. 86)

The Transcript further shows that

W. L. SCHOETTLER,

a witness called on behalf of the plaintiff in said suit, testified on

Direct Examination

in part as follows:

“My name is W. L. Schoettler. I reside in Ramsey County, Minnesota and an Assistant Right of Way, Land and Tax Commissioner for the Great Northern Railway Company. I have been with the Great Northern Railway Company for something over 27 years and have held my present position since 1925. I handle all of the reports to taxing officials and attend hearings before tax commis-

sions, state and county boards of equalization, budget hearings and all matters connected with ad valorem taxes on the Great Northern Railway and its subsidiary companies. It has been part of my duty for many years to appear before public taxing authorities along the system to discuss assessments and valuation of the various properties, both of the railroad and the physical property of subsidiary companies whose stocks and bonds are owned by the Great Northern.

“There would not be more than 10% difference between the percentage of Great Northern miles of road in North Dakota to the balance of the system and the percentage in miles of all track. If 22% of the miles of road are in North Dakota, the all track mileage percent would be about 20.”

On

Cross-Examination,

Mr. Schoettler testified in part as follows:

“At the meeting of the State Board of Equalization at which the 1933 taxes of the Great Northern Railway were considered, I was present and filed a brief setting forth the stock and bond values of the Great Northern Railway for the 5 years prior to November 1, 1932, and also the deduction of the non-operating assets and also a valuation [2433] of the system by capitalizing the net railway income at 6%, and I then took a straight average of these two values and then allocated the value of

the entire system to North Dakota by four factors and also three factors. The four factors were the mileage of all tracks, car and locomotive mileage, revenue and traffic units and gross operating revenues. We also called attention to results that would be obtained by using other factors and that the physical property ratio was less than the ratios set forth in the tabulation. I do not recall any other factor that was used." (p. 85)

On

Redirect Examination,

Mr. Schoettler testified in part as follows:

"I know of no case in my experience where an assessed valuation in any state was the exact result of any mathematical computation and formula. The use of the formulae varies in different states and the assessment is usually different from the computations. When I say that a certain formula is used in a particular state, I mean that the statisticians have usually set out a number of computed values which are averaged and sometimes the assessment is entirely different from any of them." (p. 85)

The Transcript further shows that

W. P. TURNBURKE,

a witness called on behalf of the plaintiff in said suit, testified on

Direct Examination

in part as follows:

“My name is V. P. Turnburke, I reside in St. Paul and am General Auditor of the Great Northern Railway Company. I am a graduate civil engineer and have been engaged in railroad engineering for 4 years and in statistical work for the past 18 years. I have been statistician for the C. M. & St. P. Ry. Co. and the Great Northern Railway Company and during the War was manager of the Operating Statistics Section of the United States Railroad Administration at Washington. As [2434] General Auditor of the company, I have in my custody all of the various records and books of the company and have had general supervision of reports made to the various state railroad commissions and the Interstate Commerce Commission.

“When the North Dakota tax authorities used the proportion of gross revenue in North Dakota to that on the system as one of the five factors of allocating system value to the State, they get the gross revenue for North Dakota by taking a mileage prorate of the interstate freight revenue on each interstate shipment moving in any part in North Dakota and add to that the total intrastate revenues in North Dakota.”

* * * * *

“Referring again to the matter of allocating interstate revenue which I was speaking of, when a

freight rate on interstate traffic is made on a laminated scale as described by Mr. Beidelman, the total revenue is prorated to North Dakota on a mileage prorate basis including a mileage prorate of both the underlying rate and the overlying or laminated rate at the higher figure. The entire revenue is prorated in that case on a mileage basis just as it is in every other interstate shipment.

"I have prepared plaintiff's Exhibit 11 in order to show how in my judgment the total revenue on that kind of a shipment should be allocated in proportion to cost of service and also how it is allocated on the mileage basis. This shows a shipment moving through the States of Washington, Idaho, Montana, North Dakota and Minnesota, and I have assumed" (p. 87) "it to be a shipment moving under a laminated rate scale to which the additional layers of revenue have been added in the states of higher cost, so that the total revenue is just sufficient to pay the total operating expenses plus an allowance for the use of property, which I have assumed to be 4%. This [2435] Exhibit 11 applies to a 30 ton shipment as an example, and in column 1 is given the approximate miles hauled in each state. Column 2 shows net ton miles and is the product of the 30 ton shipment times the miles in each state as shown by Column 1. Column 3 shows the operating cost per hundred net ton miles, and column 4 shows the allowance for use of property at 4%. The operating costs shown in column 3 are

round figures but are approximately correct, as is the allowance for use of property in column 4, the 4% being applied to the actual value of the property in these states.

“Column 5 shows the total operating expenses for the entire shipment and is obtained by multiplying the ton mile cost in column 3 by the ton miles in column 2. Column 6 is a similar procedure for the use of the property. The total cost for handling the car including the allowance for the use of the property is shown in column 7 which is the sum of the two previous columns. Out of a total cost in column 7 of \$480, the cost applicable to each state is shown.

“Now if the mileage prorate basis of dividing this through revenue of 80¢ a hundred or \$16 a ton, which produces a revenue of \$480 for the shipment, were used, 4/18 of the total revenue would be assigned to Washington which is the ratio of the Washington miles hauled in column 1 to the total miles hauled. A mileage prorate for all of the states is shown in Column 8. This gives North Dakota the same allotment of revenue as Washington although the cost of the service in North Dakota is just half the cost of Washington. Column 9 shows that the amount of revenue assigned to Washington on a mileage prorate is less than the actual operating expenses so that the mileage prorate basis says in effect that Washington should not be assigned enough revenue to pay its operating

expenses and that North Dakota should be allowed a sum sufficient to pay its operating expenses and [2436] a return of 7.8% on the property used. Minnesota would receive a return of 9.7% although the total shipment produces a return of only 4% for the entire movement. Now this is exactly the situation that exists when the interstate revenues are assigned to the states on the basis of the mileage prorate and in our returns to the State of Washington, the" (p. 88) "assignment of revenues on that basis in the aggregate on all business is not sufficient to pay the operating expenses incurred in that state, although there was actually net money made on the system operation.

"If this method of allocating interstate revenue in proportion to the cost of producing the service were to be used in tax cases, I would not say that it would be necessary to go through the same process which I have gone through here as to every individual interstate shipment. The same result can be accomplished substantially much more easily by making the same kind of a computation on the interstate traffic of the state as a whole instead of determining the ton miles per state on each shipment and multiplying them by the cost as I have done in Exhibit 11. It would be easier and more practical and substantially as accurate to take the total ton miles of all interstate freight traffic moving in the State, which is already shown in our

public reports, and multiply that figure by the average cost. This would show the total cost for each State incurred in the movement of all the interstate freight traffic and the total interstate freight revenue on the same traffic for the system could then be apportioned to the different States in proportion to the total cost incurred in each State for producing this service.

“By working it out on the basis of the total ton miles in each state as I have just described it I would not get identically the same result for each state to the last dollar and cent that I would get by allocating each individual movement separately, but it would be the same if the revenue for each shipment bore the same relation- [2437] ship to the cost of each shipment. This, of course, is not so as to every shipment as some rates are higher in proportion to cost than are others. However, it is generally true as pointed out by Mr. Beidelman that it has been the policy of both the company and the Interstate Commerce Commission to increase rates in the higher cost territory in order to cover the increased cost and while there may be individual rates that are higher or lower than others in proportion to the net or in proportion to the cost, thus giving a different net, I believe that when you take the total traffic of all kinds passing through any one State we will find that the total revenue bears about the same relationship to the total cost in all cases. And to the extent that

that is true, my short-cut method of taking the total ton miles in the state would produce exactly the same result as allocating each shipment individually, and that is particularly true of the State of North Dakota, which par-" (p. 89) "ticipates in practically every kind of interstate shipment of this system. It is a State that is intermediate between our terminals. The lumber business, the apple business, the manufactures, grain business, all of our heavy revenue producing commodities, not meaning each shipment but the general commodity movements, of the Great Northern, pass through the State of North Dakota, and the only commodity that I know of that moves in any substantial volume that does not move through North Dakota is the iron ore on our Mesabi division and to certain extents the heavy coal movement between the head of the Lakes and Minnesota points, although there is coal movement into North Dakota.

"This class of traffic that does not move into North Dakota like the ore and the coal is in general more profitable than the other traffic on the system, and including that traffic and the revenue therefrom in the interstate revenue and traffic for the system simply increases the allowance that goes to the State of North Dakota on that basis.

[2438]

"I determine that the traffic on the Mesabi division is more profitable than on the system because by computing the system figures, eliminating the

Mesabi division entirely, both its revenue and its expenses, it will be found that a smaller assignment of revenue would be made to North Dakota than on the basis of including the entire system operation including that division. It is correct to say that, to the extent that a general allocation by total ton miles in each state would vary from the separate computation of each individual shipment, the result in North Dakota would be favorable rather than unfavorable to North Dakota.

“(The document marked ‘Plaintiff’s Exhibit 11’ was offered and received in evidence and is included herewith as Plaintiff’s Exhibit 11.)

“I have made a computation of the interstate revenue that should be credited to North Dakota if it were allocated in proportion to the cost of the service by using the general method that I have just described. This computation appears in plaintiff’s Exhibit 12. Page 2 of this exhibit shows the division of interstate freight revenue on a basis of cost. This is marked Schedule B.

“This page, Schedule B of the exhibit, relates to freight operation, the upper half is for the years 1928, 1929 and 1930 and the lower part for 1931 and 1932, with an explanation of the source of each of the items. I might here explain that there are certain other work sheets that are re-” (p. 90)
“ferred to as Schedule C, for example, that have been furnished the State day before yesterday and that are merely working sheets on which some

of the basic data is put together to bring forward on this Schedule B.

“For each year there are three columns of figures, the first representing the system, the second North Dakota and the third the balance of the system excluding North Dakota, which is the difference between column 1 and 2. The freight operating expenses shown on the [2439] first line are those reported in the annual report to the Railroad Commissioners of North Dakota. The matter of equipment, freight proportion, and the joint facility rents, freight proportion, is the payments made by the company for the use of the property of others, the system figures being reported to the Railroad Commissioners of North Dakota and the North Dakota proportion being obtained on the relationship of the relative freight car miles made in North Dakota as compared with those of the system. In the case of passenger equipment on the basis of the relative passenger train car miles; in the case of the locomotives on the basis of the locomotive miles and in the case of the other equipment, mostly work equipment, on the basis of the work service train miles. All of these car miles, locomotive mile and train mile figures are reported in the annual report to the Railroad Commissioners of North Dakota for both North Dakota and the system. The rents from locomotives and from work equipment must be divided between freight and passenger and that is accomplished on the basis of the operating

expenses, relative operating expenses, the freight proportion and the passenger proportion, all of that is done on Schedules C, D and E, which as I say are part of the working papers, but have been furnished the State two days ago. In the case of the joint facility rents the amount shown to North Dakota is a credit and that is a collection that the Great Northern makes for the joint use of some of its property in North Dakota by other carriers, whereas for the system it is a debit. Now a word about line 4, the allowance for use of property based on the I.C.C.'s cost of reproduction new, less depreciation, plus additions and betterments since valuation date, freight proportion. In the report to the State Tax Commissioners there is shown the I. C. C. cost of reproduction new, less depreciation, plus additions and betterments, since valuation date, for both the State of North Dakota and the system, with the single exception [2440] of the year 1932, in which case all the basic information was supplied but the computation of the depreciation on equipment in North Dakota was not made, but that can very" (p. 91) "readily be made. As to the rate of return which I have used, in each year I have used that rate of return which the system actually earned during the year and not an arbitrary $5\frac{3}{4}\%$ or 6% or any other per cent, but have allowed for the use of property for both the system and North Dakota the same rate of return as was actually earned during the year in question from the operations of our property.

When I speak of the amount actually earned, that is before payment of taxes, I have left out the taxes from this Exhibit 12 on the grounds that we are trying to determine a fair allowance for taxes and if our claim is correct that the taxes in North Dakota are over stated, then including taxes would give North Dakota disadvantage, so by leaving the taxes out a more favorable result is obtained for the State of North Dakota. Now having determined the allowance for the use of property, that allowance was divided between freight and passenger on the basis of the relative freight and passenger operating expenses in both North Dakota and for the system. That basis of division is one generally recognized, and the Courts have held that a division should be made on the basis of use of the property and it has been determined by those familiar with this kind of work that the operating expenses are the best measure of the use, the more dollars being spent in freight service is evidence that more use is being made of the joint property for the benefit of the freight service, so that the figures on Schedule B, Sheet 2 of Exhibit 12, all relate only to the freight operation. Now having totaled on line 5 the first four items, that is, the freight operating expenses, equipment and joint facility rents and the allowance for the use of property, the average cost per 1000 revenue net ton miles, Line 7, is determined by dividing [2441] line 5, the total cost, by the revenue net ton miles,

which are shown in line 6 and are contained in the annual report to the Railroad Commissioners of North Dakota for both North Dakota and the system. The average costs are shown on line 7 and the interstate revenue net ton miles, line 8, is then multiplied by the cost per 1000 revenue net ton miles, line 7, to determine the cost of handling interstate traffic, line 9. The difference between the interstate revenue net ton miles and the total net ton miles, that is line 8 and line 6, is represented by the intrastate net ton miles. The total cost of handling interstate traffic, both in North Dakota and out of North Dakota, is thus developed on line 9, and line 10, which shows the interstate freight revenue for the system is divided between North Dakota and the balance of the system on the relative basis of the cost of handling the interstate traffic, line 9, all of which" (p. 92) "is shown on line 11 of page 2, Exhibit 12. This division of interstate freight revenue on the basis of cost assigns to North Dakota about twelve or thirteen per cent less revenue than the total revenue assigned to that State if the interstate revenue were divided on a mileage prorate.

"My computation of the total cost to North Dakota of handling all the interstate freight that passed into or through that state is shown in line 9, column 2 as \$14,190,493. The total amount of the interstate freight revenue that I allocate to North Dakota in proportion to that cost is shown in Item

11, Column 3 as \$14,338,757. This last figure is the objective of my whole computation and it includes full allowance for the operating expenses and the use of the property.

“Now having found for the year 1928 that North Dakota earned \$14,338,757 in interstate freight traffic, that figure is brought over to page 1 of Exhibit 12, Schedule A, and added to the intrastate freight revenue as reported to the Railroad Commissioners of North Dakota and all other operating revenues, that is passenger, mail, express and so forth, both intra and interstate as reported in the annual [2442] report to the Railroad Commissioners of North Dakota to produce the total operating revenues, item 1 C, assignable to North Dakota, which for the year 1928 was \$19,613,435.00.

“In the line numbered with an Arabic 2 under a Roman I, which is the second line of figures under the year 1928, “Interstate Apportioned on Cost Basis” is that same figure \$14,338,757 which is the figure that I developed on page 2 and then took over to page 1. All the figures on line 2 of page 1 are developed in line 11 on page 2.

“Now after having *developeped* on line I C the total operating revenues in North Dakota for each year, I then subtract from the total operating revenues the total operating expenses in North Dakota as reported in the annual report to the Railroad Commissioners of North Dakota to obtain item 3, the net revenue from railway operations. From this

latter figure is deducted a small amount for the uncollectible railway revenue proportion belonging to North Dakota, an allowance for equipment rents and added thereto is an allowance for the joint facility credits divided to North Dakota on the basis of the freight car, passenger car and locomotive miles and so forth that I have previously explained. Those figures are total for both freight and passenger, to obtain the item 8, the net railway operating income excluding taxes assignable to North Dakota. Item 8 corresponds exactly with the net railway operating income, which is the measure of the net rev-" (p. 93) "enue resulting from the railway operations and has been used as the basis in measuring the fair return by statute and has been used as a measure of the rental to be paid to the carriers for the use of their property during Federal control, with a single exception, that item 8 does not include a deduction for taxes, which, of course, must come out of this net before the actual net operating railway income is obtained. However, I take the system net operating income, line 9, which includes a deduction for taxes and add back the railway tax accruals to obtain [2443] line 11, which is the net operating income for the system, excluding taxes, that is on the basis of the same items as is included in item 8 for North Dakota, and the last item of page 1 of Exhibit 12 shows the percent of the system net operating income, excluding taxes, that is earned in North

Dakota with the interstate revenue apportioned on a cost basis. This per cent varies from 11.37, the low in 1931, to 12.82 in 1928, with an average of 12.22 for the five years and 11.71 for the three years, all of which is shown on the last line of page 1 of Exhibit 12.

“All of the revenue and expense figures on page 1 of Exhibit 12 are taken from reports either to the state commissions or the Interstate Commerce Commission, except that one figure of Interstate freight revenue which I developed on Sheet 2. And I might say that this method of apportioning revenues on a mileage prorate which has been used by the carriers in making the returns to the Commissions of all the States is largely as a matter of convenience. The State Commissions’ reports require that the carrier show its interstate freight revenue applicable to that particular State. No directions or methods are specified by the Interstate Commerce Commission or any State, but for the State of Minnesota the taxes are levied on a gross earnings basis and the statute requires that the method of determining the gross earnings applicable to Minnesota on which those taxes shall be figured is the mileage prorate basis, so being compelled to analyze the accounts and separate out the Minnesota freight revenue on the basis of a mileage prorate it was a simple matter to extend the same system to the other States and divide them all uniformly. However, I might say that in

connection with our reports to the State Railroad Commissioners of each State we have protested that the method which we were using in separating interstate freight revenue was not a correct one but was simply being returned as a matter of record, and I would like to read into the record a copy of the protest, which appears on page 700 [2444] of the annual report of the Great Northern Railway Company to the Board of Railroad Commissioners of the State of" (p. 94) "North Dakota for the year ending December 31, 1932, and which protest is identical with that appearing on the similar page in the reports to those Commissioners for other years and to the Railroad Commissioners of other States. 'The revenues from transportation shown above as derived from interstate traffic are compiled upon a straight mileage basis and are given under protest for the reason that this company does not consider that that basis accurately produces the revenues in North Dakota from such traffic.' Now, as I have stated before, I have not included taxes in this exhibit anywhere because they are in dispute. If the proper amount were known they should be included, because the revenues must in the last analysis pay the taxes, but the proper amount of taxes is dependent upon the proper proportion of the system value and the proper proportion of the system value cannot be determined until the interstate revenue is properly apportioned, and, therefore, it is necessary to

exclude the taxes from this computation, but it is excluded from both the figures for North Dakota and the figures for the system. If the taxes were included the North Dakota proportion would be smaller than those shown on Exhibit 12. For the year 1930, for example, which is the nearest year to the average of the five years so far as net earnings are concerned, the proportion accruing to North Dakota if you include taxes would be 11.02% instead of 11.91 as shown in the last line under the column headed 1930 on the first page of Exhibit 12. In fact in the year 1932 the railway tax accruals applicable to North Dakota were nearly double the net operating income before taxes that was available from operations within the State of North Dakota with the interstate revenue derived on a cost basis as I have done.

“There are no rules or provisions in the freight tariffs or other [2445] records or practices of the Great Northern Railway Company providing for a mileage prorated or any other prorated of the through freight revenues as between states and none of the freight rates of the Great Northern Railway Company are published on the basis of the same amount for each mile of the movement. The Great Northern Railway Company has not received any instructions from public authorities of North Dakota or from the Interstate Commerce Commission or other public authorities for determining how much of the revenue on through freight

shipments should be credited to any particular state, and the Great Northern does not for its own purposes or for any purpose other than the reports to state tax commissions that I have referred to, make any division or allocation on interstate" (p. 95) "freight shipments through states, except the mileage prorate that I have referred to. In a rate case involving rates in the State of Minnesota where the allegation was made that the mileage prorate basis had to be returned to the State of Minnesota because it was compelled by the statute for determining the gross earnings for taxation purposes the statistician for the Railroad and Warehouse Commission under oath denied such an allegation and stated that as there were no rules prescribed for apportioning the interstate revenue, carriers were at perfect liberty to report anything that they saw fit under this heading and that they were not bound by the mileage prorate basis even in the State of Minnesota.

"(The document marked 'Plaintiff's Exhibit 12' was offered and received in evidence and is included herewith as Plaintiff's Exhibit 12.)

"As to my criticism of a straight mileage proportion of interstate revenue to individual states, the straight mileage prorate assumes that every mile of road over which a shipment moves contributes as much to the total transportation service rendered as every other mile. This, of course, is manifestly not so, first, because it costs more to [2446] operate

some miles than others, such as a mountain operation versus a level plain operation, and, secondly, because the investment is greater in some miles than in others. Now I have referred to the iron ore movement in Minnesota, which originates in the Mesabi Range and moves to our docks at Allouez, Wisconsin. The movement is approximately ninety miles in the State of Minnesota and ten miles in Wisconsin, but the construction costs of the ninety miles are about the same as the construction costs of the ten miles, because the ten miles include five large concrete and steel ore docks, yards for classifying the freight before moving on the docks and sundry other terminal construction. The cost of operation of the ten miles in Wisconsin I would say was somewhere in the neighborhood of one-third as much as the cost of operating the ninety miles in Minnesota, so that with a fifty per cent of the investment in Wisconsin and one-third of the operating cost the value of the transportation service contributed by Wisconsin should be somewhere between those two figures, possibly forty to forty-two per cent, but the mileage prorate of assigning revenues gives Minnesota 90% and Wisconsin 10%, so that the mileage prorate would in effect make a large deficit in Wisconsin and show a tremendous profit in Minnesota, although as a matter of fact that traffic itself is only returning a fair return, and that is exactly what the reports to the State of Wisconsin show, in many years they

show that the assign-'' (p. 96) "ment of revenues to that State are less than the operating expenses in the State, notwithstanding there was net made on the system, similar to the reference I have made to the State of Washington. If independent companies were operating these two properties, that is, the Minnesota and versus the Wisconsin end, the Wisconsin company would not be content with accepting a mileage prorate, it would have to get a division of the rate based upon its cost and value of its property, and at one time there were separate companies operating the docks from those handling the line haul and the division was not [2447] on a mileage prorate but the division at that time was about 40% to the dock and 60% to the line haul, so that this method of determining the net earnings in the State of North Dakota is exactly the same result that would obtain if the properties in North Dakota were operated as a separate entity that had to stand on its own bottom along with the rest of the system, allowing North Dakota full allowance for its operating expenses and for its interest on its investment the same as allowing other States through which this interstate shipment passes. Of course, North Dakota gets full benefit of all its intrastate business the same as the other States do. Similar to this situation that I have recited as to the iron ore movement is the large terminals located on Puget Sound and on the eastern end of our system. Now anyone familiar with rates knows that

in no case is the rate dependent upon distance entirely, and by that I mean that the rate for a ten mile haul is not double the rate for a five mile haul, or the rate for a two hundred mile haul is not double the rate for a hundred mile haul; in fact if you had a one mile haul you would still have a fairly stiff rate as measured by the increase that would occur between 100 and 101 miles, for example, due to the terminal, the expense of the terminal service, that allowance is made in the rates just as truly as though it was set forth in a separate figure and the allowance is made for the heavy expense of operating those terminals and for the heavy investment in those terminals. As to whether every rate is in effect a laminated rate so far as the terminal service is concerned, I am saying that by the large the rates have got to be made on the basis of the cost plus a return on the investment if the company is going to stay in existence and that a schedule of rates that have grown up for many years with those factors, of course, has been recognized, as Mr. Beidelman has pointed out, repeatedly by the rate making bodies in making higher rates on sections where the costs are higher and also as far as [2448] the terminal situation is" (p. 97) "concerned the fact that all rates are made with an allowance for the terminal service even though it is not set out separately. If there was no allowance for the terminal service a rate for 100 miles would be double

the cost of a rate for 50 miles, or the rate for 200 mile movement would be double the cost for a 100 mile movement but that is not the case. The effect of the mileage prorate as far as the terminals is concerned is that it takes revenue away from the terminals where it is needed to pay the high operating cost and support the expensive plant and credits it to miles of outside line outside of the terminals where the expense of handling and costs are much less, and I have cited that in our returns to the State of Wisconsin and to the State of Washington show with a mileage prorate that in many years they are not earning their operating expenses. The same situation occurs in the territory outside of the terminals. There are different miles in that territory that costs different amounts to construct and different amounts to operate. There may be a bridge that would cost \$1,000,000 a mile, there may be a tunnel that would cost \$2,000,000 a mile, there may be a mile of line in North Dakota or Montana that would cost \$40,000 a mile, and to say that the service rendered in transporting a shipment over those different sections of line with these different values is equal I think is a misnomer.

“I might add that Section 15a of the Interstate Commerce Act requires that the revenues pay the operating expenses and a fair return, and even if this were not a part of the law, if the company is to stay in business, such, of course, must be the case.

“Referring to Mr. Bowen’s statement in connection with Exhibit 7 that the average reproduction cost less depreciation per mile of road was approximately twice as great outside of North Dakota as inside of North Dakota. I have made a computation to determine what that percentage would be if instead of using miles of road you should use miles of all track. The figure would be 1.74% instead of 1.96%. In other [2449] words, the average mile of all track outside of North Dakota would cost $1\frac{3}{4}$ times as much as the average cost per mile of all track within North Dakota. In making this computation, I gave the same weight to every mile of side-track or house track or yard track that I gave to a mile of main line track on the road. Even with all those miles assumed to be equal, I still find that the average miles of all track outside the state contained $1\frac{3}{4}$ times as much physical property as the average mile in the state.” (p. 98)

“In connection with Exhibit 12, I stated that the allowance for use of property was not based on an average earnings of 6%, 7%, 9% or any arbitrary percentage but based on the actual earnings of the property for that particular year, applying the same percentage to the property within North Dakota and without North Dakota. Now the average earnings of the Great Northern Railway Company, the net railway operating income compared with the cost of reproduction new, less depreciation, varied during these five years from a maximum of 5.85 to a minimum of .23 of one per

cent, the average for the five-years being approximately 3.6%, so that by the large and for the five years the effect of the allowance for use of property that has been used in determining the cost in North Dakota and outside has been a rate of 3.6% on the property. Now this 3.6% is determined after deducting taxes, and as I explained before, I have not included taxes in my cost computations so that the figure that I have actually used instead of being 3.6%, which is the rate of return if you include taxes, the average figure which I have used is 5.15%, the 5.15% being before taxes and after you would take out taxes what would be left would be 3.6%, but as I am determining the net before taxes I have used the rate of return before taxes, which is 5.15% on the average for the five-years, and treated North Dakota the same as the balance of the system. It would be correct to say that in apportioning my [450] interstate freight revenue, the only allowance that I have made for the value of terminal property and for the value of tunnel property and higher cost property in other states is, on the average, an allowance of 3.6% above taxes.

“When the mileage prorate system advocated by the state in this case is applied, it does not leave some net railway operating income in every state in each year when the system has net railway operating income. As I explained before, for the State of Washington and for the State of Wis-

consin, South Dakota and other terminal states, frequently the amount of revenue assigned to those states on the mileage prorate is less than sufficient to pay the operating expenses let alone their taxes or any return upon their property, not in every year but in many years. In those same years when the mileage prorate would leave a deficit in the three or four states that I mention, it must necessarily leave a corresponding higher return in the other states like North Dakota, because there is net on the system every year. There has been no year in which there has not been some small net left from the system operation.” (p. 99)

“As to the extent to which my apportionment meets these defects that I have mentioned, my method first allows to each State its operating expenses and then credits in proportion to the cost of providing the plant within that state. This method is identical with the method that would be adopted if there were separate ownerships; in other words, if we had a line separately operated and owned from the North Dakota border west similar to the Puget Sound extension of the Milwaukee at one time, the division of rates between those sections East and West of the North Dakota-Montana line would not be on a mileage prorate but would have to be on a basis similar to the one I have adopted, which allows for all elements of cost on both sides of the dividing line. [2451]

“If there were two independent connecting companies and the cost of producing the service on one

of them were 75% of the total and the cost of producing the service on the other were 25% of the total, they would not divide the revenue equally just because the mileage happened to be equal. I cited the case of the terminal operations at Lake Superior which at one time was carried on by a company independent from the company operating the main line or the road service, and in that case the terminal company was demanding about 40% of the through rate instead of about 10% which they would get on a mileage prorate.

“My method of apportionment differs from a straight physical property allocation based on reproduction cost less depreciation because a straight physical property value would not allow for the volume of the traffic. Value, of course, is dependent upon the net earnings largely and a cheap line with heavy traffic would be entitled to a higher value than a more expensive line with lighter traffic. My computation reflects both the volume of traffic and the value of the plant. For example, on page 2 of Exhibit 12, line 9, is a cost of handling interstate traffic and includes an allowance for the operating expenses and a return on the investment both within and without and gives effect to the volume as well as to the physical value of the plant. That is because I multiply the volume as measured by ton miles by the average cost on interstate traffic. The intrastate traffic is allowed 100% to the state in which it occurs. Under my

method, credit is allowed to a state for a more costly plant or for a greater cost of providing the plant by increasing the element of cost which reflects the value of the plant. Turning now again to Exhibit 12 on page 2, line 4, is the allowance for use of property based on the I." (p. 100) "C.C. cost of reproduction new, less depreciation, plus additions and betterments since valuation [2452] date, the higher the cost of the plant the larger would be the assignment of cost to that particular state and, therefore, the larger the proportion of interstate traffic revenue. The result would be that the more valuable the plant the higher would be the cost and, therefore, the higher the assignment of revenue.

"As far as the wholly intrastate freight traffic is concerned, my method gives to a state its actual net from the operations of that traffic based on its gross and its operating expenses without paying any attention to the cost of the plant, so that if a given state had a very heavy volume of intrastate traffic but a very cheap and inexpensive plant, it would still get full credit for the net that would result from the cheaper plant and being less costly to operate and a smaller investment. In making the assignment as I have done, I assigned to the intrastate revenue the same cost of plant per ton mile as is assigned to interstate traffic, but it is applied only to the actual movement intrastate.

“In the operating expenses for North Dakota which I have shown in Exhibit 12, the operating expenses in North Dakota are in general the operating expenses incurred entirely within the State, that is, the maintenance of way expenses is the actual expense of maintaining the particular tracks that lie within North Dakota and have nothing to do with the cost of maintaining the tracks in any other state. The maintenance of equipment expenses, so far as maintenance of the locomotives is concerned, the amount assigned in North Dakota is the amount of Maintenance put on the particular locomotives that are operating within the State. So far as the maintenance of cars is concerned it is impracticable to keep a record of the cost by individual cars and the movement thereof as we own some 50,000 cars that are moving all over the country and a great many foreign cars on the line at the same time, so that the apportionment to North Dakota and to every other [2453] state is made on the basis of the car miles within North Dakota compared with the total system car miles as applied to the total cost of car repairs. As far as the transportation expenses are concerned, the wages of the men operating the trains in North Dakota is charged to North Dakota and there is no part of the wages of men operating trains in Washington or in Montana or Minnesota included within the North Dakota figures. The station expenses of operating the stations are the cost of

operating the stations within North Dakota, and none of the station expenses connected with operations outside of North Dakota.” (p. 101) “Now when I said that those expenses were not wholly those incurred within North Dakota I had reference to two principal items, the traffic expenses and the general expenses. Now the general expenses are the general offices, all the clerks in the main general office. The traffic expenses include the traffic solicitation. These traffic solicitors are moving all over the line and we do not assign the cost of these men according to the accident of location, but as far as the general expenses and the traffic expenses are concerned they are assigned to the states on the basis of the relative train miles in North Dakota to the train miles on other portions of the system. With the exception of those two items, which are small items compared with the total, the assignment of expenses to North Dakota is what might be stated on an actual basis of the expenses incurred within the state. Taking, for example, the report to the State Commission for the year 1929 the total operating expenses assigned to the state was \$14,079,000. Of that amount the traffic expenses were \$625,000 and the general expenses were \$539,000, a total of \$1,164,000 out of \$14,000,000 or approximately eight per cent.

“In addition to the North Dakota operating expense that I have shown on Exhibit 12, the performance of the transportation service in [2454]

North Dakota involved some other operating expenses outside the state which I have not included in my exhibit and to which I have paid no attention. There is the element of the movement of company freight. That takes on some pretty large figures, amounting to roughly ten to twelve per cent of the total. The movement of coal from the head of the lakes into North Dakota for the operation of the engines in North Dakota, the movement of lumber from the Pacific Coast into North Dakota for the purpose of repairing cars in North Dakota and engines, the movement of steel. Now this element of the handling of company freight on the basis of the accounting divisions as made rests within the State where the service is performed; in other words, the cost of wages and fuel incurred in the State of Minnesota for handling of traffic, both revenue traffic and the coal for the use of North Dakota is charged to the State of Minnesota and there is no attempt to prorate that figure back to the state for whose benefit the cost is incurred. The wages are the wages and the fuel and so forth that actually physically existed within that state. Now North Dakota is a central state in the center of our system so that material is conveyed into it from both ends of the line, and while it has some offsetting haulage of company freight for the benefit of other" (p. 102) "states, such as lumber passing through the state for the benefit of Minnesota, the amount is much larger in the han-

dling of other states for the benefit of North Dakota than vice versa. I worked the figures out for one year and roughly the figures were 100,000,000 net ton miles of company freight handled in other states for the benefit of North Dakota, 98,775,511, for example, against 33,410,433 net ton miles handled in North Dakota for the benefit of other states. No coal moves through North Dakota for use in Montana or Wisconsin. The coal movement is from the head of the lakes into North Dakota. The Montana fuel is derived from a source in the State of Montana, either oil from the Montana oil fields or coal from the Central Montana fields. [2455] Our system breaks at Williston into what we call our lines East and lines West. It is a physical division of the line under different general managers and in general the operations East and West of that line are decidedly different. The operation East of Williston use the Eastern coal and lines West use the Montana oil and Montana coal.

“If these additional operating expenses incurred in Minnesota and other states for the benefit of North Dakota operations were shown in my computation and charged to North Dakota with the off-sets that I mentioned, it would result in a smaller percentage being assigned to North Dakota, probably a very small decrease. I cannot say exactly how much because there is no way of determining the exact cost of handling this com-

pany freight. This decrease would result because I would have a somewhat larger operating expense to deduct from the gross in determining the net for the state.

“The interstate passenger revenue I have left the same as it was assigned in the report originally, that is assigned to North Dakota on a mileage prorate. As far as the passenger revenue is concerned it is a relatively small item of your total revenues. Again the passenger rates are constructed on a mileage basis. You can move for two cents a mile anywhere on the Great Northern system, North Dakota, Washington, or anywhere else so that their rates are not constructed on this laminated basis as is the case with the freight rates. The allocation of passenger revenue on a basis similar to the one I have used for the freight to North Dakota would decrease the percentage of the system net earned in North Dakota, but I have not done that for the effect of simplicity and I believe that the passenger revenue being so small would have very little effect on the total. I have given North Dakota some increased allowance both by omitting the operating expenses incurred in” (p. 103) “other states and by leaving the mileage prorate for passenger service. I will say [2456] right here that these figures that I have computed with an average of 12.22 for five years and 11.71 for three years do not represent the exact proportion to the last one-hundredths of a percent but that they do indicate approximately in

a scientific method the percentage that should be assigned to North Dakota, which might be a half of a percent more or a half of a percent less than the figures that I have shown.

“As to the extent to which my method gives a higher value to a state because it is a state of low operating cost and cheap operation, of course, you would have a low assignment of interstate revenue to that state in the first place, but when you come to deduct your operating expenses you would deduct a low operating expense and, therefore, to that extent you would increase the net and the full benefit of the intrastate traffic is given to the low cost within that state.

“I should say that my method of computing the value of the railroad property in North Dakota was exactly similar to the method that you would use in determining the net earnings of any business. I have allowed the full intrastate earnings and the total cost measured by the operating expenses and interest on the plant as they existed. Then it is necessary to determine how much of the charge for interstate freight movements was earned in North Dakota and how much in other states. I prorated the interstate freight revenue on the basis of the cost and then adding that up with all the other revenues and deducting the expenses I found the net.

“The only difference between the determination of the value of the railroad property in a state and the determination of the value of a manufacturing

plant located in the state would be that in the case of the railroad property you have certain revenues that are earned partly in other states and it is necessary to prorate that kind of earnings. As I explained yesterday, my method would result in assigning 11 or 12% less of the total revenue to North Dakota [2457] than the mileage prorate, and I do that by assigning it in proportion to the number of dollars worth of service performed in each state instead of the number of miles of track.” (p. 104)

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“I cannot see any difference in principal between the method of allocating the value of an interstate railroad which is advocated by the state in this case and the application of the same method to an interstate electric power” (p. 105) “company. I would say that the method was exactly analogous to the situation that would exist if we had a power production system at say Fort Peck, Montana, transmitting power across the State of North Dakota and serving North Dakota, into Minnesota and distributing the most of its power in the Twin Cities. In a case of that kind you would have an investment for the power plant and transmission lines in Montana of probably \$50,000,000. The cost of the line across North Dakota and whatever substations you would need would possibly be \$2,000,000, and the cost in the State of Minnesota, including its expensive transmission to residences and industries in the

Twin Cities would possibly be \$50,000,000, I am just giving assumed figures and round figures, but the mileage through North Dakota would be double the mileage in either Montana or Minnesota, therefore, on a mileage prorate basis one half of the total revenue collected by that industry would be assigned in North Dakota and one quarter to each of the States of Montana and Minnesota, thereby giving a return of 70% say on your investment in North Dakota and not assigning enough to either of the other two states to pay the operating expenses, when in fact the rates were made on a basis of allowing a 5% return on the property value. Now it doesn't make any difference whether you divide that revenue up, it doesn't make any practical difference whether you divide it up or not on the transmission mile or wire mile, which is analogous to a road mile or a track mile, there would be same additional wire miles in [2458] in the Twin Cities which would slightly decrease the assignment to North Dakota, possibly making it 48% instead of 50% of the total, or it does not make any difference if you divide it up on the ampere miles or ohm miles or volt miles or any other basis exactly analogous to your car miles or your ton miles or your locomotive miles, you would get the same thing, you would have an assignment of double the revenue to North Dakota that you would get in assigning to either one of the other states. Now the same situation exists in dividing interstate freight revenue on a mileage basis

only to a much less exaggerated extent than would be the case with an electric transmission system, but nevertheless the fallacy is there just the same to a smaller degree. As I have said, this assignment of mine takes from North Dakota about 11% of the revenue that is assigned to it on a mileage prorate and the other basis that have been used. If my assumed system value of \$102,000,000 for this transmission plant were allocated to the State of North Dakota on a composite ratio of miles of line and miles of wire and ampere miles and volt miles and ohm" (p. 106) "miles, the \$2,000,000 worth of property that I assumed was located in North Dakota would be given half of the total investment of \$102,000,000, giving an assessed value of \$51,000,000 in North Dakota for a \$2,000,000 plant. The assessed value in each of the other states would be \$25,500,000 on a \$50,000,000 investment. I would contend that in a case of that sort the allocation ought to be made in proportion to dollars worth of service produced in each state instead of miles, for the same reasons that I have already stated for railroad property. If the over-all rates would give a five percent return on the system, then the property in North Dakota would be earning 5% and not 75% as would be produced by this arbitrary basis assigning a loss to the other two states, not assigning enough revenue to pay their operating expenses. There is no difference in principle between assuming that every mile of an electric production transmission plant is the same

and assuming that [2459] every mile of a railroad line is the same because it is of the same length." (p. 107)

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"It is generally true that the charge for a very short movement is relatively higher than the charge for a longer movement and of course all these intra-state revenues which average around 2¢ are much higher than our average revenue on interstate freight, which averages less than 1¢." (p. 108)

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"As to the large difference between my allocation factor of 11.71% on Exhibit 12 and the state's allocation factor of 18.25% if you will turn to Exhibit 19, the items a, b, c, d and e shown thereon are the State's allocation factors; those are the five factors that the State uses in determining its ratio of 18.25%. Now the first four factors are very close to one another, showing but slight variation, and they all are the reflection of a mileage situation, so that you have that situation multiplied by four in determining your average of the five items, whereas the physical property, the last item, with an average of 13.85% has a weight of only one in the method that they have used. They assume, for example, on the mileage of all tracks that each mile of track in North Dakota is the same as every mile of track outside of North Dakota as though they were all equal; they assume that the movement of a car one mile in North Dakota that costs maybe ten or fifteen

cents and requires a use of \$50,000 worth of property is the same or equivalent to the cost of moving a car one mile in a terminal where the cost may be \$3.00 for the car movement, and the value of the property may be a million dollars a mile. The same thing is true as to the locomotive miles, ton miles, the revenue traffic units and the gross operating revenues which are divided again on the miles of road. I might illustrate that again, if the Court please, by referring to this Mesabi Division where our ore movement occurs. If we were [2460] determining these four factors for the Mesabi Division, comparing Minnesota with the total of the Minnesota and Wisconsin figures to obtain the percentage, the miles of all tracks in Minnesota would be slightly less than the miles of all road because there are many miles of track at the docks in Wisconsin that would be given weight in that factor, so that for the mileage of all tracks you might have a figure of 85% assigned to Minnesota, but for the car and locomotive miles there would be 90% of the miles made in Minnesota, so that that factor too would" (p. 114) "have a weight of 90%. The third factor, the revenue traffic units, 90% of the ton miles would be made in Minnesota; the gross operating revenues divided on a mileage prorate 90% would be assigned to Minnesota, so of those four factors you would have 90% assigned to Minnesota in all cases and ten per cent to Wisconsin, except for the small effect of the bigger proportion of all track mileage in

Wisconsin which would lower that first factor a little. Now that same effect has bearing through the system and you notice how close together the figures are for the State of North Dakota, so that the effect of the mileage is being given a weight of four and the other element, the physical property, is given the weight of one. Indeed, there is still a worse situation than that arises, because take the car and locomotive miles, for example, the car miles as computed in our reports end with the arrival of the car at the terminal. There are no car miles figured after the train is broken up although the car may be moved many miles within the terminal. The locomotive miles end with the arrival of the locomotive at the terminal. Although there are many switching locomotive miles made there is no consideration given in these factors; and the revenue traffic units and ton miles are not figured to the exact ultimate destination, but to the point where the train movement ceases. Similarly the gross operating revenues that is divided on a mileage basis is divided on a road mileage and not on a track mileage basis, so that in determining this [2461] average percentage for North Dakota all the car miles, ton miles and locomotive miles made in the terminals in Washington or Minnesota are left out of the computation, thereby swelling the percentage applicable to North Dakota. When the percentage is applied to the system value the State then argues that it is proper to take the value of these terminals in apportioning

the amount to the State but in determining the factors they leave out these traffic units in determining the percentages. Now I am not saying and I do not want to be understood that they are doing anything improper, I do say it is improper but not wilfully wrong because that is the way the figures are put up, but it is a fact nevertheless that it is impracticable, of course, to have a speedometer on every car and measure its movements around the terminals and through the terminals, so that the elements of car miles and ton miles do not include any allowance for the movement of the car within the terminals, so therefore, the percentage that is assigned to North Dakota is larger than it would be if actual mileage of the movement of the car were considered." (p. 115)

"Of course, the factors of car and locomotive miles and ton miles give some reflection of the traffic density on different sections of the line, but when they consider a locomotive mile on a branch line in North Dakota, and we have lots of them, as being equivalent to a locomotive mile handling an ore train of one hundred and seventy cars in Minnesota, which this road very frequently does, I then say you are producing results that are inequitable. The year round a locomotive on a North Dakota branch line might handle around 200 to 400 tons per train as a generous figure. It would take about 70 locomotive miles of that character to produce the

same amount of transportation that is produced by one locomotive mile on an ore train.

“The average car loading in the State of North Dakota is around sixteen tons, whereas the average car load on the system outside of North Dakota would be nearly thirty tons, and yet a car mile in North [2462] Dakota is considered equivalent to a car mile on the rest of the system in working out these percentage averages.

“Referring to Mr. Bowen’s testimony that the Great Northern by making investments in tunnels and line changes outside North Dakota has shortened the track mileage outside the state and thereby increased North Dakota track mileage proportion of the system, a similar result is followed from the company’s investment in locomotives for *us* in other states. The development of transportation on the Great Northern has been a progressive purchase of heavier locomotives for use in territory outside of North Dakota with a corresponding reduction of the locomotive miles made in that territory. In other words, by putting heavier locomotives on certain sections we were able to eliminate helper locomotives and thereby reduce the locomotive miles in those sections. That is a situation that has been occurring progressively for the last twelve to fifteen years so that at the present time by the use of these larger locomotives, with heavy investment therein, costing \$110,000 apiece, we are able to reduce the locomotive miles in the territory outside of North

Dakota and thereby by the State's formula assign a bigger percentage of the locomotive miles to the State of North Dakota.

“That process was followed more outside North Dakota than in North Dakota because the territory outside was susceptible to such an arrangement. The heavier grades occurred outside of the state. The desirable thing in train operations would be to start a train out of the Pacific Coast terminals and move it into the Twin City terminals without” (p. 116) “breaking up the train, use a block of four thousand or five thousand tons and so move it. We have been working to that situation on the Great Northern and there was a time when it was necessary to break that train into two units where the grades were heavy and take the train across with two train miles instead of one, due to the grades in both the Cascade and the Rocky Mountains. Now with the use of this heavier [2463] power we are able to move a block of tonnage from forty-five to forty-eight hundred tons from the Pacific Coast clear through without double heading or breaking the tonnage and with only the use of helpers where the grades are the steepest for short distances. It follows that North Dakota now has a larger percentage of the total locomotive miles without having made any increased investment or change in the method of operation in North Dakota.

“As to how the operating cost per ton mile or per car mile in the principal Great Northern terminals

compared with the average cost of road haul per mile, speaking in general and by the large it costs about half as much to handle a car in the terminals, that is the two terminals, as it does to move it on the road. The average road haul on all freight in the Great Northern is around three hundred miles and the terminal handling may be average, say ten miles, or the terminal handling mileage is one-thirtieth of the road haul mileage and with a cost in the terminals of one-half as much as the cost for the road movement, the average cost per ton mile or car mile in the terminals would be fifteen times as much as for a movement one mile on the line. Those are just rough approximate figures, but are based on studies that have been made many times by various people as to the relative cost of terminal and line haul movement.

“I do not know of any unit of allocation that can possibly reflect the various differences between road haul movements and terminal movements and between movements in mountain districts and movements on the plains and so on, other than the unit which we have called a dollars worth of service. I do not know of any other unit that is not subject to all the objections I have been citing.

“Referring again to Mr. Bowen’s testimony to the effect that track mileage in other states has been shortened by additional investment in those states, the immediate effect of that if the state’s allocation method by five factors is followed, would be that the

additional in- [2464] vestment made for the purpose of shortening the mileage would decrease the value in that particular state and increase the value in every other state, and that is because the mileage of all tracks," (p. 117) "item a, would be decreased in the state where the improvement was made, the car and locomotive miles would be decreased because the through trains would be passing over a shorter track, the revenue traffic units would be decreased similarly, the gross operating revenues assigned on a mileage basis would be similarly decreased, although the fifth item the physical property value would be somewhat increased, so four factors would be decreased, for the state where the improvement is made. Conversely, in all the other states four factors would be increased and one factor decreased; so that the effect would be to transfer value from the state where the improvement is made to the other states. By creating this tunnel investment in Washington of \$26,000,000 that Mr. Bowen testified to, on the defendant's method of allocating value to states the investment or the value of the property in North Dakota has been increased.

"Under accounting rules as established by the Interstate Commerce Commission, when expensive tunnels or regrade projects are installed for the purpose of reducing operating expenses in that section, the income statement as reflected in the net railway operating income is increased due to the cheaper operation as a result of the additional in-

vestment. There is nothing allowed in this net railway operating income for the interest on the bonds or the investment, it is purely an operating revenue minus operating expenses, taxes and a couple of other smaller items, so that making an investment for the purpose of cutting down operating expenses increases the net although there may be an offsetting charge down in the bond interest for the bonds and new money that had to be provided to make possible that improvement.

“If you then obtained a system value by calitalizing that increased net you would get a corresponding increased system value. If [2465] you were to take the net operating income after the expenditure of \$26,000,000 for those tunnels had been made and presuming that net operating income was higher than it would have been if the improvement had not been made which was the basis of making the improvement, then the system value as determined by capitalizing that net railway operating income would be increased because of the application of this new money. At the same time the proportion assigned to the state where the improvement occurred would be reduced by using the method advocated by the defendant in this case, so you would have the double-barreled effect of increasing the percentage of the system net assigned in North Dakota because of this improvement made in the” (p. 118) “State of Washington, and when applying that percentage to the increased net for the system a still

higher value would be assigned to North Dakota. North Dakota would get a higher percentage of a higher system value because of an improvement made in another state, as would every other state also outside of the state where the improvement occurred." (p. 119)

On

Cross Examination,

Mr. Turnburke testified in part as follows:

"The first objection which I have to the method of allocation of the revenues of the railroad to the State of North Dakota is that sufficient emphasis is not placed upon cost so far as interstate revenues are concerned. The method that I have adopted does not assume that all parts of the system are equally profitable. It is based on the statement of Mr. Beidelman, supported by the fact that the Interstate Commerce Commission and the Railway Company in making the rates" (p. 122) "on this interstate traffic has made allowance for the higher cost in one territory than another and, therefore, has built up a laminated rate, North Dakota being in the lower cost territory. I am not stating that all interstate freight rates are based upon this laminated rate structure but that the total value of the interstate rates must in the long run provide for the cost of operation and the [2466] return upon the investment necessary to give the transportation service covered by that particular movement. There

is no shipment passing through North Dakota that is not affected by this terminal consideration which makes for a lamination. I do not know as to every particular shipment whether the laminated rate structure fixed by the Interstate Commerce Commission applies. Probably 20% of the Interstate business in North Dakota consists of shipments from North Dakota to Minnesota. In the case of shipments of grain from North Dakota to the docks at Duluth or Superior, the basis of my computation is on the assumption that the rates provide for a return on the investment plus the cost of giving the service. If that were not so, we could not continue in business. I am not saying that that is true as to every individual shipment between every two points. The rates in the aggregate do not produce any such return as 6% and I have not based my computations on that assumption, but have based them upon allowing the return which the rates actually would permit the company to earn. On a shipment from North Dakota into Minnesota within the same zone you do certainly have in that rate and in every rate, an allowance made for the terminal service separate and distinct from the line haul service just as much as though it were set out as a separate factor in the tariffs, which it is not, but the fact that the rates do not progress on a mileage basis, that is, the movement of two hundred miles does not cost double the movement of one hundred miles for that commodity, and every rate proves that there is an element added

in there for this terminal service and to that extent there is a lamination there. Of course, there would not be three zones if you were only moving through two states, but I do say that the Interstate Commerce Commission and each state commission are watching the rates to see that the public pays no more than what is fair and that by the large each rate and every rate will provide for the cost of service and a fair return, which is not only basically sound but is written into the [2467] law of the land. There are many rates on transcontinental commodities which do not approximate a fair return on the investment because of competitive conditions and North Dakota is participating in practically all of the transcontinental movements to a" (p. 123) "larger extent than they are with these movements that you refer to that originated or terminated within the state. There is a small percentage of North Dakota interstate business which comes from the east and terminates in North Dakota, but it would be much larger than the percentage of goods distributed in North Dakota coming from the west.

"Each and every rate is not exactly scientifically fixed upon the basis of the cost of operation plus a reasonable return on the investment, but by and large they do give some return in an amount in excess of the net cost of operating the railway, as is evidenced by the fact that we are earning a net even in the poorest years though it may be little. It is true of movements through every state including

North Dakota that we are able to earn this net because the rates for goods moving through the state are sufficiently in excess of the low cost of operation to give a substantial profit on the business. I do not believe it is true that we make a greater profit in North Dakota per mile than in other states particularly western states. This is shown by the fact that the figures on Exhibit 12 show a smaller percentage of the net assignable to North Dakota than either the miles of road or miles of track basis would produce. In other words, the net revenue per mile of road or per mile of track is less in North Dakota than it is on the balance of the system. I am referring to the net which I have produced by the method which I have followed in Exhibit 12 which reduced the revenue assigned to North Dakota as compared to that reported to the Railroad Commission by about 11%.

“Our protest against the method of assigning earnings on a mileage basis was made to the Board of Railroad and Warehouse Commissioners. I do not know whether we have protested to the State Tax Commission. My business has been largely in connection with cost of service analyses, [2468] both for rate purposes and for the use of the management, and the general mechanics which surround the operation of the railroad.

“If a through rate is fixed for a given commodity shipped in interstate commerce through North Dakota, North Dakota will produce a greater

profit per mile of haul than the other states, if you assign the revenue on a mileage prorate. If you assign it on a proper basis that will not be so. The cost of carrying the train or a ton of freight a mile in North Dakota is less than it is in most of these states. The price that the shipper is paying is not the same for the move-" (p. 124) "ment in North Dakota as it is for the other higher cost states, and if it were not for those higher cost states the shipper would be paying a smaller revenue, and, therefore, your assumption is fallacious when you assume that a shipper when he buys transportation from Seattle to Minneapolis pays the same amount for every mile that that shipment moves in North Dakota that he does for every mile it moves in the State of Washington or any other state. It is certainly clear that the movement of a mile in the State of Washington, for example, over a grade which would involve a lifting of that ton of freight fifty feet to the mile is more valuable to a shipper than moving the same ton in the State of North Dakota on a level grade. His problem is to get the shipment from origin to destination. It is true he pays a through rate that nobody says what part of that goes to every state through which it passes and our problem is to find what part does go to North Dakota.

"Taking a commodity which is being shipped from Seattle to St. Paul with a rate fixed upon a competitive basis with the Panama Canal, what

the shipper wants is to get his goods from Seattle to St. Paul. We do not have to reduce the rate to St. Paul because of water competition but if the movement was to New York as a general proposition we would. I do not know whether that rate would be based on any laminated rate structure. We know that any and every rate is based on [2469] someone's judgment that it is delivering some net to the system over operating cost or the rate would not be made. This is absolutely true in all cases. It is against the law to quote a rate that is less than the cost of handling the shipment. As a practical matter, we do not make rates for less than the cost of handling the shipments. This competition that we have with the Panama canal still enables to make money beyond the cost of operation on transcontinental shipments. A shipment made from Seattle to St. Paul would not have the rate figured on a mileage basis. Practically no rates are based on an absolute mileage basis, that is none in which rates are doubled with mileage or anything like that. The minimum below which you cannot go is a rate that is sufficient to pay the cost of handling plus some return on the investment. The rates are not different for different railroads, but the costs of operation are not all the same.

“My proposition that rates must pay expenses, plus a reasonable return on the investment is true because rates are not made by an individual rail-

road where there is more than one line involved. They would be fixed by joint conference," (p. 125) "and sufficient to pay the expenses of all. The return might be less on a poorly managed railroad, but it would be in excess of cost.

"The rates from a city in the west served by the Northern Pacific and Great Northern to St. Paul would be the same regardless of the efficiency of operation of the two lines.

"If one railroad lost money on the shipment, it would be unlawful because you would thereby be throwing a burden upon the transportation of your other commodities and have the ground work for a rate case which would bring about a readjustment of rates. These rates are not fixed arbitrarily by the management but are being examined by every railroad commission and the Interstate Commerce Commission. These Commissions make adjustments upward and downward from time to time if the examinations disclose that the rates are not correct or would not [2470] produce a reasonable return. I have never contended that the rate structure is a precise, exact or scientific result of the actual cost of operation plus a reasonable return, but my position is that they are in excess of the cost of operation and yield some return. As to whether there is any class of goods which produces a loss, I have not made a study of every class of goods that moves

through every mile of the Great Northern Railway, but I admit that it is not as exact as fixing a measure for taxation purposes, but I do say that the Commission has a minimum rate level in mind and will check you not only for making rates too high but for making them too low, and I have been in cases where the Commission has denied the right to cut rates.

“In making rates for products from North Dakota to Minnesota, the rate-making bodies make the rates just as low as they think they can and stay out of court. It is an evolution of a structure which was put in by the carriers years ago when the country was building up and has been modified by the carriers and the Commission from time to time as circumstances arose or demanded revision.

“I do not say that you can assign to any state exactly the share of hauling an interstate shipment through that state to the last dollar and cent, but I do say that you can do so as a practical matter, and I have done it in Exhibit 12. The only items of expense on Exhibit 12 that have been assigned to North Dakota on formula are a small item of equipment rents and joint facility rents which are about 3% of the total. For fuel for locomotives I assigned the fuel consumed by the locomotives operating in the state,” (p. 126) “which is specifically labeled and ear-marked for the specific locomotive which it is used for. A fuel ticket is issued giving the locomotive number, the date,

and the run of the engine and the cost of the particular fuel. Where an engine runs west from Williston into Montana or crosses any state line, the entire fuel consumed on the run is divided on the basis of the miles made in each state.

“Train supplies and expenses include several items which are apportioned on different bases. Lubricating of cars which is probably the [2471] principal item, is assigned to the State of North Dakota on the basis of the car miles. The engine house expenses is the expense of the particular engine house located in the State of North Dakota and North Dakota gets no share of the expenses of engine houses located in other states.

“Engines used in North Dakota are sometimes housed in engine houses outside the state and engines used in other states are housed in North Dakota also, but there is a 400 mile operation in the State of North Dakota. The biggest portion of our engine terminals are at Grand Forks and Fargo where the end is on the state line and at Williston where it is 10 miles from the state line. When you take the fuel on an engine from Williston west and assign fuel for 10 miles compared with the total length of the movement, you assign two or three per cent on the basis of that mileage prorated, and 90% that is consumed by engines that are operated entirely within the State of North Dakota.

“Where we haul 100,000,000 net ton miles of company freight outside the State of North Dakota

for the benefit of North Dakota operations, the cost is not added to the cost of service in North Dakota but is added to the cost of service in whatever state the movement occurs in. It is not added but it is there already and it is not taken away from those states. It is a part of the cost of operating the system in Montana.

“I do not know of any situation which affects the State of North Dakota, similar to the absurd result produced by allocating the revenues from ore shipments between Minnesota and Wisconsin on a mileage prorate. That illustration concerns only Minnesota and Wisconsin. However, if the Mesabi Division operations had been *elimated* from the system operations, both the revenues and the expenses, the assignment to the State of North Dakota would be smaller than I have found on Exhibit 12, and by leaving that movement in the states outside of North Dakota, I have to” (p. 127) “that extent favored the State of [2472] North Dakota. I made the illustration of the absurd result produced by using the mileage prorate on a shipment of iron ore to illustrate the errors of the mileage prorate which exist in all mileage prorate ascertainment to a greater or less degree. I know of no other instance where it is evidenced to such a marked degree as we have no other traffic that moves in such volume between two terminals.

“I stated that we made our report to the railroad commission on the basis of the mileage prorate

under protest. I did not say that there was no law or rule of any rate-making body which required the report to be made upon that basis. The State of Minnesota makes the taxation of railroads on a gross earnings basis and prescribes that interstate revenue be assigned to Minnesota on the basis of a mileage prorate. Being compelled to make that computation for the State of Minnesota where we have the largest ton miles on the system, we have continued that method to other states and have determined our interstate revenue on that basis. Many other railroads do the same thing and many do not. I know of one large railroad operating through the State of North Dakota that does not follow that basis at all. They take the mileage prorate of the system revenues to Minnesota and take the balance of the interstate revenue and divide it on a mile basis regardless of cost and determine the same in the State of North Dakota and the State of Washington and the State of Idaho and every other state that they operate through just as a means of putting a figure in the report.

“I do not know of any other railroad which uses the method which I have developed in Exhibit 12. It has been talked of for years—as much as eight or ten years ago I worked out a distribution of revenue on that basis and introduced it as an exhibit in some rate cases. It has not been gotten up overnight for the purpose of this case. No state has ever raised any question as to the assignment

of interstate revenue to that state by the average revenue per ton mile basis or any other [2473] method. In fact the statistician for one of the other railroad commissions testified that the carriers were at liberty to state any figure they wanted in that column no matter what it was. That was Mr. Bitney speaking for the state that already compelled you to keep the mileage prorate for taxation purposes. He testified that that did not bind you as to what you should report to the railroad commission and that you could report the interstate revenue on any basis you saw fit. These reports to the railroad commission" (p. 128) "are matters of public record and are put on the shelves in the commission and very little use is made of them thereafter so far as the interstate revenue is concerned.

"I have never appeared before a tax commission and do not know who has appeared and do not know what basis they have used, but so far as I know, they have never attempted to use the method of allocating gross revenue among the states which I have followed. I never prepared figures on this basis for my tax department until August 1934. I did not present similar figures for any other states.

The application of my method of computation to the State of Washington would not produce a great increase in our taxes in that state. They work up a five factor formula similar to the one advocated by the defendants in this case and then,

finding that it assigns to Washington little or nothing, as is necessarily the case when revenues are assigned on a mileage prorate, * * * they throw the figures out of the window and say that they have no probative value and that we will assess you three or four times more than those revenues show, so that the State of Washington now pays no attention to the five factor formula. The assignment of interstate revenues on that formula shows that Washington is not even earning its operating expenses in any year and could, therefore, have no value on the theory advocated by the defendants in this case. We have the situation that the state which has an advantage [2474] from the formula uses it while another state where the factor would show that the property is worth less than nothing says that the formula is worth nothing.

“I have never advocated that the method of spreading revenues on a mileage prorate should be applied to Washington and even if I had, it would have been given no weight by my listeners. I do not know what the carriers have advocated in their appearances before the various tax commissions.

“The formula which I said was thrown out of the window in Washington is the formula which the state is advocating here, the five factor formula which would give a figure of about one-half of the assessment made in Washington. I do not know what our railroad advocates out there or whether it has advocated the system developed by me in

any other state except North Dakota. I do not know whether North Dakota is the state which would receive" (p. 129) "the greatest blow by the use of my formula. I would be surprised if it would not result in a very material reduction in Montana, but the State of Washington is already assessing on a basis practically what would be developed with a system such as this. I do not know about Idaho as we have only 100 miles in that state out of 10,000 miles of operation.

"If a smaller percentage of our gross revenues is given to North Dakota necessarily a large percentage must be given to other states. Washington would get a large share of it, because on the mileage prorate it is not even earning its operating expenses. When a system earns less gross in states like Washington and Wisconsin on the mileage prorate than the actual operating expenses, it is clear evidence to my mind that there is something wrong with the system. So far as I know, our railroad has made no attempt to promote its use in any other state than the State of North Dakota, although I do not know what they have used. I prepared the figures for the North Dakota brief but have not prepared any similar figures for briefs used anywhere else. [2475]

"I prepared the figures for North Dakota about the latter part of last year or the first part of this year and subsequent to August and September, 1933, when the 1933 North Dakota assessment was

made. We got such a shock when we got that assessment that it was evidence there was something radically wrong with the situation and began to look into it to find out just what the difficulty was.

“I did not develop this theory for the express purpose of using it *is* this lawsuit or in fixing future North Dakota taxes. I developed and used it ten years ago. I have used it for the purpose that I am using it here, to assign interstate revenues to the various states through which the traffic moves in identically the same method that I have used it here for the purpose of developing the net earnings by states. I have not attended any tax hearing and have not used it in tax hearings and have not prepared any figures on that basis for any tax hearings before the 1934 hearing.” (p. 130)

* * * * *

“There is a material amount of mileage traveled in a terminal for which no credit is given on the mile haul of the road. The purpose of these terminals is to furnish efficient loading and unloading facilities. In loading and unloading freight at any town along the line, there is a movement back and forth which is not counted in the mile haul of the freight, but the movement in an intermediate station where there is no switch engine may be 200 ft. and is not at all analogous to a movement in a terminal like Minneapolis and Seattle, where the movement would be four or five miles. You do not move the whole train around to take out or put in one

car, but simply cut that portion of the train that has the car to be set out." (p. 134)

"It is not a fact that it is cheaper to load or unload at a terminal than at a prairie station. Because in a terminal, the car is handled by sometimes four or five different switch engines and spotted for loading. Where we don't have the switch engines, we use the locomotive attached to the train because the volume of business does not [2476] warrant a switch engine and it is a shorter movement. Every car that is loaded or unloaded at a country station has to be cut out of a train or put into a train." (p. 135)

* * * * *

"Referring to the shortening of the railroad by tunnel construction, the last tunnel constructed was finished in 1928, but we have had smaller tunnels constructed since then. The 1928 tunnel and grade revision shortened the line 9 miles. When those tunnels were built the snowsheds and the whole investment on the old line was charged off to capital account, because that does not affect your operations. The property retired was written out and the property constructed enters the account. I think the charge in that case was made to profit and loss on the tunnel." (p. 135)

On

Redirect Examination,

Mr. Turnburke testified in part as follows:

"I would not say that my method of apportioning interstate revenue is applicable in any greater

or different degree to laminated rates which are the specific and direct result of applying two or three layers of established scales than to a through rate which is not so constructed, but which is merely the result of estimating the cost of performing the service plus a return on the plant used. Whether these rates were in fact made by the laminated basis or not, they are in effect made on that basis. A transcontinental rate which because of the higher cost in Washington and terminal costs might admit of a rate no less than 65¢ a hundred which would be sufficient to cover cost and some return, whereas if we did not have the higher costs in those states and had the same costs that existed in North Dakota, it would be possible to make a rate of 55¢ or 50¢, and therefore, the additional cost in effect is in every rate whether it is so set forth as a separate item or not and gives every rate the effect of a laminated rate. [2477]

“The Court: May I inquire just one question here that I am not clear on what the contention of the plaintiff is. Without regard to how the rate is constructed, whether by laminated process or not, the result necessarily is in the rate, is it not?

“A. Yes, sir.

“The Court: For taxing purposes what difference does it make whether it is laminated or not laminated?” (p. 137)

“A. It does not make any difference except when they use the mileage prorate of interstate

freight revenue to assign to the State of North Dakota and thereby take into the State of North Dakota some revenue that belongs to the State of Washington because the costs in the State of Washington were in effect included in the rate as made. We cannot make a rate that is less than cost plus a return. The fact that we have higher costs in Washington means the rate is higher than it would be if we had the same conditions that we have in North Dakota. Our contention is that a method that takes revenue from the State of Washington and leaves that State without sufficient revenue to pay its operating expenses and a proportion of a through rate that is passing through North Dakota and assigns to North Dakota a revenue that pays its operating expenses and two or three times the return on the property in North Dakota that the system is earning is a fallacious method of distributing revenue.

“The Court: Of course, I only asked you the question for information, but the thought is running through my mind the cardinal principles involved in a tax case, I do not say the sole or only but the cardinal, was the earnings of the property used in the State?

“A. That is correct.

“The Court: With the value of stocks and bonds capitalized at a reasonable rate?

“A. That is correct.

“The Court: And with that thought in mind I had some little difficulty in appreciating just what

difference the laminated versus any other rate would make as applied to a tax proposition. I can readily see the proposition of the rate making.

“A. The problem as you state is to determine the net earnings applicable to North Dakota and that is what I have done on Exhibit 12. The net earning is determined by assigning to North Dakota its interstate revenue, what I say is a proper proportion, and a correct proportion of the interstate revenue and charging to North Dakota its operating expenses absolutely incurred within the State and thus determining the net. The whole difference between the figures reported to the Railroad Commission and the figures I have used on Exhibit 12 amount to a reduction of about eleven per cent of the gross assigned to North Dakota and that comes about on the theory that the mileage prorate assigns too much of this through revenue to North Dakota by taking away from” (p. 138) “Washington some of the share that belongs in there and taking away from Minnesota some of the share that belongs in that State.”

On

Recross Examination,

Mr. Turnburke testified in part as follows:

“Referring to these laminated rates, I would say that the zones [2478] are fixed definitely with reference to the cost of operation. I do not say that

the rate of lamination is exactly the sum of the cost.

“Assuming that one of the zones commences at Leeds, N. D., and goes west, I would not say that there would be a great” (p. 141) “deal of difference between the cost of operation between Leeds and Grand Forks and between Leeds and Minot. It runs through practically the same kind of territory without mountains if you stop at Minot, but not if you go to Williston. The route from Minot to Williston is a very costly operation. It is the most costly operation in the State of North Dakota and is more costly than eastern Montana. That is because of a heavy grade and in the Badlands. There is a 1.72 grade in that vicinity and it is so bad we have a separate engine run for that 127 miles and in the next territory west we run 300 miles.

“I do not say that the rate schedule is precise or exact but is just an indication of situations.

“Referring to a rate on transcontinental traffic which has been reduced by Panama Canal competition so that it produces a 1% return on the investment, the object of that transportation is to get goods from the west coast to the east coast. We get rate from one *and* to the other. Over some portions of that route it is very costly to carry the goods and over other portions it is *chaper*. North Dakota is one of the cheaper portions. It is not a fact that it is more profitable to haul such goods

over North Dakota mileage than outside mileage. I think the rate is built up to include the higher cost in the other states and that if the North Dakota situation existed throughout the system you would get a still lower rate but your net would not be any more. We don't get that lower rate because of the high cost of operation in the west but we get the same net on the business. Profit is determined by subtracting the cost of operation from the income. The income from operation in North Dakota on a shipment from which the rate is fixed on a competitive basis does not give a bigger spread in [2479] North Dakota than it does in other states.

“Our railroad and the Northern Pacific compete for the same transcontinental business and have approximately the same terminals in the Twin Cities and on the west coast, but the cost of operating the two railroads is not identical. Nor is it identical in any state along the route. The Northern Pacific takes a route quite a bit to the south of ours, but the Great Northern uses the lowest mountain passes. The rate on a shipment of freight from St. Paul to the coast would be identical on both railroads, but the cost of carrying it per mile would be different and would probably be different in each state along the route. In fixing minimum rates below which you might not go, the Commission usually figures the cost by” (p. 142) “all the roads that will handle the traffic. If the rate is above the minimum, it simply means that each one

is getting a varying percent of profit. They use the average cost of that haul as a measure and then they have a certain prescribed minimum below which they will not go no matter how low the costs are.

“I think it is probably true according to Mr. Bowen’s map that a shipment of freight would go a good deal further in going through Montana by way of the Northern Pacific than it would by way of the Great Northern, and you could assume that the cost of operation per mile would be approximately equal.

“My formula would produce different assignments to North Dakota for the Great Northern and Northern Pacific, because the Northern Pacific’s net earnings on their system are different from ours, which is equivalent to saying that the earnings per mile or per dollar invested in North Dakota is different for the two railroads, and I think that is true, but my system would show what would be correct for the Northern Pacific just as it does for the Great Northern.

“My system does not assume that earnings are exactly proportionate to cost but that the general level of them must necessarily cover [2480] the cost in order to permit you to remain in business and that no rate can be made below a minimum that will not give you some return. My system does not assume that costs and earnings are constant in their relation exactly. If you were to take your total earn-

ings and break them up on a cost basis, you would get entirely different figures from what I have here. The percentage of cost in North Dakota instead of 11 or 12% I think is around 17%.

“My system does not assume that the relationship of cost plus a return on the investment and earnings is constant. So far as the interstate freight is concerned, it assumes that a through rate that is made for the movement of a shipment through a group of states does not give you variable rates of profit or loss in different states on the same movement. That is the basis of the assumption and it is applied only to the interstate revenue and has no application to the intrastate or express or mail revenue or any other revenues.” (p. 143)

On

Redirect Examination,

Mr. Turnburke testified as follows:

“My system assumes that if one state provides a million dollars worth of plant in the form of a tunnel a mile long and another state provides a million dollars worth of plant in” (p. 143) “the form of a hundred miles of track, and if the shipment earns 6% on the total, each state should get 6% on its part. It would give the Northern Pacific different credit from the Great Northern in North Dakota dependent on the number of miles of each route in the state and also on the amount of expensive construction. If the Northern Pacific had mountains in

North Dakota and a level line in the west, my system would just reverse the allocation that I get for the Great Northern.

“Mr. Shaft was perfectly right in saying that North Dakota would get more profit than other states out of the through rate on condition that by using mileage prorate you give North Dakota some of the extra earnings that are earned in other states.” (p. 144) [2481]

The Transcript further shows that

LYMAN BAKER,

a witness called on behalf of the defendant in said suit, testified on

Direct Examination

in part as follows:

“My name is Lyman A. Baker. I am a tax specialist and reside at Bismarek, N. D. After graduation from college, I engaged in civil engineering for 5 years and in 1914 entered the employ of the North Dakota Tax Commission where I remained 19 years. I was Deputy Tax Commissioner during the last 13 years, and it was part of my duties to prepare all valuation data in connection with railroads and other public utilities for the use of the State Board of Equalization. I had general charge of all of the tax work in the office in addition to the valuation of the public utility property and have studied and considered the general tax field.

“I have attended five or six session of the National Tax Association and attended the session in 1923 when railroad taxation was specially under consideration. I am familiar with their deliberations and conclusions. Since January 1933, I have been engaged as a tax specialist independently of the State Tax Commission.” (p. 144) [2482]

* * * * *

“The principles of valuation that are ordinarily followed have been laid down by federal courts and are the guides which are ordinarily followed in valuing railroad property. The principles are broad in their application and consequently there is some room for disagreement. The first step in the valuation of railroad property is to determine the value of the entire system. There are two classes of evidence ordinarily considered, first the past earnings of the property, and second, the average market price of stocks and bonds over a period of years. It is difficult, if not impossible to accurately determine net earnings by states. Consequently net earnings or the capitalization of net earnings within a given state is an impracticable method of valuation. The stock and bond values reflect value of the entire property of a railroad. Neither the capitalization method nor the stock and bond method afford any basis for making a direct determination of that part of a railroad system within a given state. The past value of the railroad involves the entire property and then apportioning the value to the various states in which the property is located.” (p. 145)

* * * * *

“As to the proper test period for averaging stock and bond values, I think that most taxing boards, economists and in fact most railroad men have always adopted the five year period in order to give stability to the tax value so far as the railroad is concerned and also as far as the State is concerned. As far as the State is concerned stability in assessments are vitally important. As far as the railroad company is concerned it is immaterial whether the five year period or a shorter period is used, as in the long run the total assessment would work out the same.

The depression resulted in a collapse in the stock and bond market. The forced selling that occurred during the recent depression brought stock and bond values down to a figure where in the opinion, I think, of most of the investors it did not fairly represent the value of the property. The purchasing power of the dollar from 1929 to 1933 very greatly increased and this resulted in a very great depreciation in security prices as well as the prices of all commodities. In the United States there was a general movement to convert property into cash, due to a collapse in public confidence, and security prices since 1929 have been extremely unstable. Some of the things that affected the security market were the exportation of gold, the policy of the Federal Reserve Banks, the collapse of a speculative bubble, the freezing of banking assets, the wide-spread failure of banks and the almost total loss of confidence

on the part [2483] of the public in the integrity of American business managements. In North Dakota, in addition to the general depression, we have had drought and crop failure and ruinous prices for agricultural products, and from 1929 to 1933 the extraordinary rise of the dollar in relation to commodity prices resulted in a universal rush to convert securities and other property into cash. The forced sale of securities, the deposit of collateral for bank loans aggravated the decline. As an illustration of what happened Dow-Jones & Company averages of thirty industrial stocks fell from 383.17 in September, 1929, to a low of 41.22 in July, 1932, and the average of twenty rails fell from 189.11 in September, 1929, to 13.23 in July, 1932. The total market value of all common and preferred stocks listed on the New York Stock Exchange fell from eighty-nine and one-half billion dollars in September, 1929, to fifteen and one-half billion dollars in July, 1932. (p. 147)

Despite all these objections to the stock and bond method of valuation, I still consider it as one of the best indices of value obtainable.

Capitalization of net railway operating income is generally recognized as an important element in ascertaining the value of a railroad property. By this method the net railway operating income for an arbitrarily determined period of time, usually five years, is averaged and the amount ascertained is capitalized at a reasonable rate of return. The capi-

talization method assumes that value can be based on the average profit earning capacity of the railroad and that the amount upon which a fair return has been earned over the test period is the value of the property. Average earnings for a period of five years preceding the assessment date are usually considered. The use of a single year's earnings as the basis from which to determine the value of a railroad property is seldom, if ever, given serious consideration. A shorter period than five years is sometimes advocated and used, but the generally accepted test period is a five year period. The use of a three year period at the present time, when two of the three years, namely, 1931 and 1932, are the worst years in railroad history in the Northwest since the panic of 1893, in my opinion has but little justification. The railroad plant is still in existence and also its capacity to earn. The use of a three year period by the State Board of Equalization in 1933 could only be justified if the Board had positive proof that the average earnings of those three years was a correct index of the future. Manifestly no such proof could be produced. I make that statement because as a general policy the five year [2484] period had been the period which had been given the same weight by the board for a good many years.

The capitalization of net railway operating income probably has more serious objections than the stock and bond value. The capitalization method of valuation determines value wholly by past income.

It fails to take into account changes that have taken place in the property during the test period. I believe that that would not be a valid objection to it in this case because there has been no particular change in the property. The chief difficulty in the use of this method is to determine a reasonable rate of capitalization. The rate of capitalization cannot well be less than investors are willing to accept in making an investment in the same class of risk under ordinary conditions. When you have a condition such as we have had in the last several years when earnings have collapsed and stock and bond values have collapsed, I do not see any reason for changing the rate of capitalization to conform to the conditions even though many rates have changed. The securities are (p. 148) in the hands of the public and they have to take their loss. I think it is generally concluded that the rate of return that the company is allowed to earn under State and Federal law is a fair rate to use in the capitalization of net railway operating income. Under the Federal law the railroad rate structure is supposed to permit a return of six per cent on the physical value or cost of the property.

I think that the 6% rate of return is justifiable under present conditions if you take into consideration what has happened to all other property owners. The farmer's income has been wiped out, the business man's income has been wiped out. If you are going to base values entirely upon what property

is earning at the present time you would not have any value as to most classes of property.” (p. 149)

* * * * *

“In the exhibits which I have prepared in this case, I have used the composite method of valuation, giving equal weight to the stock and bond method and the capitalization method of valuation. In order to determine whether the Great Northern railroad in North Dakota has been continuously overassessed as alleged in the complaint of the plaintiff I have prepared exhibits in which the value of the Great Northern Railroad in the state is determined by several different methods for the assessment years 1929, 1930, 1931, 1932 and 1933. [2485]

Having ascertained the system value, I proceed to apportion it among the states. The distribution of railroad values among states is probably the most difficult problem in connection with the assessment of railroad property. Its solution is less satisfactory than the problem of ascertaining system value as a whole. Every method of assigning values to states is vulnerable at some point. (p. 150) There is no uniformity in State practices in making such apportionments, neither is there agreement among railroad tax men as to the proper methods of assigning values to states. Most taxing boards take the position that no single method or factor of apportionment gives assurance of dependable results and that it is safer to use a composite of various factors which more or less accurately measure the relatively

market value of the property in the individual states.

In 1923 a committee of the National Tax Association reported to the tax conference, I believe the committee had worked on the problem for a year and that committee recommended the use of five factors of allocation. The factors they recommended were first mileage of all tracks operated, second, physical property, third, car miles, fourth, traffic units, that is ton miles plus passenger miles, and the total operating revenues.

The National Tax Association is an organization of state officials and officials of railroad companies and other public utility companies and large corporations, and my recollection is that only state officials and certified public accountants have voting power but the officials of the big businesses throughout the United States belong and attend those meetings.

The committee in its report made the following statement: "There is not a single known accepted basis of allocation that is not weak at some point or another. Any one of them might work out admirably in one state but produce an absurd result in another state. No one method is a safe guide to distribution and hence it is necessary to use a composite basis, employing, however, only those bases that have something to recommend them." The committee considered nine methods of allocation and discussed those nine methods in their report. The

methods were track mileage, net earnings, gross earnings, car mileage, train mileage, car and locomotive mileage, traffic units and physical valuation and of these nine methods considered they recommended the five that I previously mentioned and those five, in substance, are approximately what we have used in North Dakota to a greater or less extent for a [2486] number of years; the only difference I believe is that we have used car and locomotive mileage and not car mileage. They recommend that five year averages be used as to the business ratios and that the property ratios such as mileage of all tracks and physical property be as of December 31st preceding the assessment. (p. 151) When I say "we used", I refer to the exhibits prepared by the State Tax Department for the use of the State Board of Equalization.

In the exhibits that I have prepared, I have used the transportation service factor, that is car and locomotive mileage, revenue traffic units, gross operating revenues and mileage of all tracks operated and mileage of all tracks owned and operated and leased and operated, excluding trackage operated under traffic rights, also the physical property factor and the net revenue factor. The net revenue factor the committee did not recommend; they recommended that that factor should not be used. I have set up my exhibits using three factors, four factors, five factors and six factors, showing the result of different combinations. I should explain that

mileage of all tracks owned and operated and leased and operated, that factor, the way it has been set up, excludes I think approximately one thousand miles of line operated by the Great Northern over property of other companies where the other company owns and maintains the property. I have just set it up as an example. In the factor mileage of all tracks operated I use all tracks operated as reported by the company and that would include all tracks operated under traffic rights." (p. 152)

* * * * *

"The all track mileage factor includes not only miles of line but takes into consideration second tracks, third tracks, yard tracks, sidings, terminal trackage and all other tracks. The use of this factor assigns to each state such part of the total value of the system as the total trackage in the state bears to the total trackage of the system. The assumption that underlies the use of this factor is that where traffic is heavier and more business is done the all track mileage is correspondingly great. The all track mileage factor has frequently been given recognition by the courts and has also been frequently condemned where the volume of the traffic carried in the particular state or the ratio of the total traffic carried in the state was out of line with the ratio of all track mileage. The percentage of the Great Northern system assigned to North Dakota by the use of this method is very close to the [2487] percentage of the system value assigned to the state by

a number of other factors. Its use can possibly be justified in the case of the Great Northern Railway on the assumption that the Great Northern mileage in North Dakota furnishes a large amount of long haul business to the system and that this fact should be given recognition. Much has been said in this case about the large percentage of branch line mileage on the Great Northern system in North Dakota. 61% of the Great Northern mileage in North Dakota is branch line mileage but an important element of branch lines is that they furnish long haul business to the system. Without its branches a main line could not exist. In dividing interline revenues connecting carriers commonly allow branch lines far more than the mileage prorate of the total revenues in recognition of the peculiar value of branch lines.” (p. 153)

* * * * *

“All of the factors except the trackage factor and the physical property factor are based on five-year averages preceding the assessment year. The trackage factors and the physical property factor are based upon figures as of December 31st preceding the assessment year. The lower part of the table gives various averages applicable to each of the five assessment years, the first set of averages being the average of use factors. Below that is shown the average of trackage operated and the three use factors. The third line shows trackage owned and operated and leased and operated and the three use

factors, the four figures being averaged. The fifth line shows the trackage operated, physical property and use factors, the averages shown being an average of five factors, and in the last line there is shown an average of six factors, the trackage operated, physical property, transportation service, traffic units, gross revenues and net revenues. Referring to the percentages applicable to the assessment year 1933 we find that the transportation service factor was 20.04%. That means that North Dakota had 20.04% of the revenue car and locomotive mileage of the entire system during the five preceding years. The traffic units factor is 18.93, which means that North Dakota had 18.93% of the total ton miles, plus passenger miles, on the entire system during the five preceding years. The total operating revenue factor is 18.45%; trackage operated at the end of the year 19.96; trackage owned and operated and trackage leased and operated 21.83; net operating revenues 20.88, physical property 14.32, the physical property ratio being by far the lowest of all the ratios. (p. 170)" [2488]

* * * * *

"I believe that taxing officials and railroad tax men always make composite allocations based upon an average of the results of several of these factors. No single method of allocation is perfect; all methods have their weaknesses and on that account why values are seldom apportioned on the basis of less than three or four or five factors.

“I did not include the relative cost of service as a method of apportionment of the system value among the states because I never heard of it. It is not a factor that has ever been used so far as I know; it has never been advocated by railroad companies. On the contrary, the representatives of railroad companies that have appeared before the State Board of Equalization in North Dakota for a long period of years have maintained that operating expenses by states could not be accurately determined and that consequently the net revenue factor should not be used.

“I was in the Tax Commissioner’s office as Deputy Tax Commissioner until January, 1933. No such factor was ever presented to the State Board of Equalization or Tax Commissioner by any railroad during my period of service. I have read the briefs and tables submitted by the Great Northern Railway Company to the Tax Commissioner for use in arriving at the assessment for the year 1933 and no such factor or contention was included therein.”
(p. 171)

* * * * *

“These formulas which I have presented together with the various combinations of factors were at various times presented to the Board of Equalization by the Tax Commissioner, and the railroads did the same sort of thing. I never heard of the railroads making the contention that railroad property should be allocated among the states on the

basis of cost of service. On the contrary the various railroad tax commissioners and representatives that appeared before the State Board of Equalization of North Dakota over a long period of years stated, I think each and every one of them (p. 188) from time to time, that the net earnings method of allocating railroad values was totally inaccurate because of the fact that gross operating expenses by states could not be accurately determined.” (p. 189)

* * * * *

[2489]

The Transcript further shows that

V. P. TURNBURKE,

a witness called on behalf of plaintiff in said suit, testified on rebuttal in part as follows:

“Reference by counsel for the State to the method of allocation shown in Exhibit 12, as being a method of allocating system value to states in proportion to cost of service, is not a correct description of my method. There has been a rather confusing use of terms to apply to my Exhibit 12 and the facts are that Exhibit 12, sheet 2, is an assignment of the interstate revenue to states on the basis of the cost of service. It has nothing whatever to do with the value of the property in the states as such and it is not so used. Having assigned the system interstate revenue to states it is a simple matter then to obtain the net applicable to the state by subtracting the operating expenses and other deductions from the

total revenues, including the intrastate and a proportion of the interstate to get the net assignable to the state, and the proportion of net of the system earned in North Dakota is then used as the factor representing the proper allocation of system value to North Dakota. It is not an attempt to allocate value to North Dakota or any other state on a basis of cost of service and it is not contended that the state that has the higher cost, therefore, has the higher value. [2490]

“Referring to Mr. Baker’s statement that my method of allocation of interstate revenue as shown in Exhibit 12 assumes the idealistic in which all rates are based on cost of service plus a fair return and that it also assumes that the rate of return is uniform in every case, that is not a fair statement in regard to my method.” (p. 219)

“If you will refer to Exhibit 11 I think I will show that that is not so. In Exhibit 11 I have illustrated what I believe to be a proper division of an interstate rate which is sufficiently high to pay all operating expenses and a four per cent return. The same illustration would hold good if I had used a one per cent return or a ten per cent return or any other return. We may have some rates that pay an extremely small return and others that pay an extremely large one, but in any case they are equally susceptible to allocation between states in proportion to the operating expenses and the cost of the plant used in producing the service. Even if it

should happen that some rate pays less than the full operating expenses with no return whatever I still believe that the total revenue should be allocated between states in proportion to the cost of service in order that each state might share proportionately in the loss.

“Referring to Mr. Baker’s statement that my method made no difference between high grade and low grade traffic or between high revenue and low revenue traffic, it is true that I have not segregated different classes of traffic, but in the case of North Dakota I have considered the total interstate traffic passing into or through the State as a whole. However, this includes all of the high grade traffic as well as all of the low grade traffic and in approximately the same proportion for North Dakota as for the system as a whole for the reason that North Dakota is near the center of the system and shares in practically all of the through traffic on the system with the possible exception of the coal movement, largely confined to Minnesota, and the iron ore movement in Minnesota and Wisconsin. As [2491] to these, I pointed out that by excluding the Mesabi Division where that traffic is handled, the percentage allocated to North Dakota would be slightly reduced, and that by including the coal and ore traffic in the total for the system I have slightly favored North Dakota.

“Referring to Mr. Baker’s statement that my method was a denial of all facts as to geographical

situations, I would say that exactly the contrary were so. The mileage prorate in allocating interstate revenue is a denial of all geographical situations as it regards every mile, wherever situated, as identical, whereas the fundamental purpose of my whole method is to give full effect to the geographical and physical situation, which are all reflected in the cost of service.

“Referring to Mr. Baker’s criticism that I throw all interstate revenue into one jackpot and assign to Washington and other western states a portion of the revenue on North Dakota-Minnesota traffic, I would say that that statement is” (p. 220) “not correct. The total volume of the traffic between North Dakota and Minnesota is shown by the ton miles in those states and the entire ton miles made in that traffic are credited to North Dakota and Minnesota, none of it is credited to Washington or Idaho. I only credit to Washington and Idaho the ton miles actually made in those states. While the ton miles in Idaho and Washington are more expensive than those in Minnesota and North Dakota, the revenue received from those ton miles is correspondingly higher as testified to by Mr. Beidelman, and these revenues as well as the ton miles are thrown into the system revenue before making the apportionment. However, the volume of traffic moving only between Minnesota and North Dakota, while substantial in itself, is relatively small as

compared with the traffic moving all the way through North Dakota from East to West, and moving from Minnesota or beyond on the East and into Montana or beyond on the East and into Montana or beyond on the West. [2492] In the first place, the mileage made in North Dakota on this trans-continental traffic is two and a half times *a* long as the mileage made on the traffic originating and terminating within the State of North Dakota, and, therefore, it would take two and one-half tons of originating traffic to equal one ton of trans-state traffic as far as the ton miles produced in North Dakota is concerned. Now the tons originating and terminating in North Dakota are not two and one-half times as much as the trans-state tons, so that in the final analysis a little over 25% of the total ton miles made in North Dakota is on ton miles originating or terminating in that state and originating or terminating in Wisconsin and Minnesota both. The larger part of the North Dakota-Minnesota traffic consists of grain and the rates on this traffic are the lowest grain rates in the United States. The Canadian lines established very low grain rates by agreement with the Government in consideration of certain land grants and the Great Northern was forced to compete with these low Canadian rates at border points where North Dakota joins Canada, the Great Northern operations extending into Canada, which has the effect of lower-

ing the rate structure on grain to all that upper section of North Dakota, with a result that the grain rates from North Dakota to Minnesota are much lower than the grain rates for corresponding destinations on any of the railroads to the south of the Great Northern into the primary markets. In view of the comparatively low revenues on that traffic, I think that North Dakota would not be hurt very much by having that revenue credited over the system with other revenues.

“As to the difference between the method used in Exhibit 12 and the method of prorating the revenue on” (p. 221) “each individual shipment as illustrated in Exhibit 11, I would say that if we could take every individual shipment on the system and prorate it between the states where that shipment actually moves in proportion to the cost of service I think the result would not vary from my result by [2493] over a fraction of one per cent, and I base that opinion on all of the testimony that I have given heretofore, that North Dakota being one of the central states of the system with such a large volume of trans-state traffic of the same character as the general interstate traffic for the system, that such a treatment as you have suggested could have very little difference in the final result.

“As to how the greatest possible variation that could occur in my method would compare with the errors which are necessarily involved in the five

factor allocation used by the State of North Dakota, the method used by the state based on the apportionment of interstate revenue between states on a mileage prorate produces results that in themselves are grotesque and absurd and condemn that method. In some years it shows deficits in four or five states and provinces while showing high profits in others. It would spread the high terminal values in Superior, the Twin Cities and Puget Sound over the interior states and produce an exaggeration or distortion by producing an allocation factor for North Dakota that is approximately 50% too high. On the other hand, I do not believe that any correction which could properly be made in my exhibit 12, by using the most detailed study, would raise the percentage of 12.22% shown in Exhibit 12 to more than say 13% or less than 11½%.

“As to the suggestion that North Dakota should have a higher value per mile than other states because of her low operating expenses, my exhibit 12 gives full recognition to the lower operating expenses in North Dakota. As I stated, the purpose of page 2 of that exhibit is, first, to assign to North Dakota a correct proportion of the interstate freight revenue and having done that I then subtract the operating expenses actually incurred in the state. The mere fact that the operating expenses are low results in an increased net in the state, a net that is higher than it would be if the operating ex-

penses were higher than they are, so that full recognition of the low operating [2494] cost in North Dakota is given in the net income before taxes on page 1 of Exhibit 12.

“As to the suggestion that North Dakota should have a higher prorate of interstate revenues because her operating expenses are lower than those of terminal states, my whole develop-” (p. 222) “ment on page 2 of Exhibit 12 goes to the error of making an apportionment on a prorate basis, thereby assigning revenues to the state of North Dakota where they are not needed to pay operating expenses and taking away from the terminal states revenues needed for paying their operations, resulting in a deficit being shown in those states and a high profit in North Dakota on the same shipment made on an over-all rate.” [2495]

DEFENDANTS' EXHIBIT 101

In the
Supreme Court of the United States
October Term, 1935.

No. 178

GREAT NORTHERN RAILWAY COMPANY,
Petitioner,

vs.

J. J. WEEKS, State Tax Commissioner; J. M.
BAILLIE as Auditor and L. T. HALVORSON
as Treasurer of Barnes County, et al., all of
the State of North Dakota,

Respondents.

BRIEF *OF* BEHALF OF PETITIONER.

F. G. DORETY,
C. J. MURPHY,
Solicitors for Petitioner,
175 E. 4th St.,
St. Paul, Minn.

November 2, 1935. [2496]

Statement of the Case. “(4)”

The constitution and laws of North Dakota require that all property including that of railway companies be assessed “at its true and full value in money”, Section 2122, Supplement to 1913 Com-

piled Laws, 1913-1925. For the complete language of the constitution and laws of North Dakota on this subject see paragraph IV of the Complaint (R. 3, 5). * * * “(5)” [2499]

Less than $1/7$ of the entire physical plant (as measured by reproduction cost) is located in North Dakota (Ex. N, R. 273). This $1/7$ of the plant had less than average traffic density and originated less than an average amount of traffic (Exs. 13, 14, R. 241). A comparison of net earnings, computed by what we believe to be a scientific and accurate method indicates that the property in North Dakota had less than $1/8$ of the total net earning capacity of the system. (Ex. 12, R. 237). “(5)” * * * [2500]

The contention that property actually located in other states is included in the North Dakota assessment is supported by the fact that while North Dakota contained only 13.85%, or less than $1/7$ of the physical plant, and while this portion of the physical plant had less than average traffic density and use value, North Dakota nevertheless assesses 18.34% of the system value. She has assessed not only the 13.85% actually located in North Dakota but an additional 5% located outside. This is accomplished by the use of certain mileage prorates of system value, which spread terminal values and mountain construction over the intermediate prairie states. It is (1) the assessing of pre-depression values which no longer exist, (2) the assessing of terminal values and mountain construction outside

the state, and (3) the arbitrary addition of \$15,000,000 without any pretense of justification which bring the total assessment up to \$78,832,888.00.

* * * “(7)” [2501]

Specifications of Error.

(8) The Circuit Court of Appeals erred in holding that it was not sufficiently established by the pleadings and evidence, that mileage prorates were in fact used in making the assessment, and that the Board of Equalization was guided or largely influenced by such computations.

(9) The Circuit Court of Appeals erred in holding that the proof of unlawfulness in the mileage prorate method of assessment depended upon proof that the only approximately true method of allocation was one based on “expense of operation”. * * * “(11)” [2502]

1. The precise amount of the 1933 assessment was fixed by that of the 1932 assessment, which was adopted for 1933.

Paragraph X of the Complaint (R.8) alleges “said Board of Equalization * * * adopted the 1932 assessment as and for its 1933 assessment and made no deduction or decrease whatever except \$17,136.00 which was due to the removal of a small amount of plaintiff’s trackage in North Dakota. The assessment per mile remained the same as for 1932 and the total assessment for 1933 was \$78,832,000.00”.

Paragraph G of the Answer (R. 26) which replies to paragraph X of the Complaint, does not deny this

but alleges that the Board had statistics and other evidence of value before it in 1933, and that the assessment as actually adopted represented its honest judgment as to value.

The assessment is in odd dollars and not in round figures. It clearly appears to be the result of some kind of a mathematical computation or process and not of a rough estimate or guess. The amount is the EXACT AMOUNT which would be reached by (14) multiplying the 1933 mileage by the 1932 assessment per mile (R. 81). No other computation by which that precise figure might have been produced is shown or even hinted at. The allegation of the Complaint that the Board in 1933 adopted the 1932 assessment as and for its 1933 assessment is not denied. The allegations in the Answer that the Board also had other evidence before it and that the amount represented its honest judgment of the value, are in no way inconsistent with our contention that the method by which the precise amount of \$78,832,888.00 with its odd dollars was arrived at was by adopting the assessment of 1932.

Various computations of value made after the assessment, and made for use as evidence in this suit, were offered by the defendants in its Exhibit P, but all of these computations are many million dollars short of the assessment. This Exhibit P was prepared by Mr. Baker, a tax specialist employed by the state, and for thirteen years a Deputy Tax Commissioner of the state, who testified that he had spent several months in preparing the exhibits and

that "in all that time I was not able to find any method of computation that would produce a value to [2503] North Dakota equal to the assessment for 1933 by any usually accepted method" (R. 190).

He also testified "I believe it is correct that schedule 4 on Exhibit P showing the five factor ratio is the one which is advocated by the state as the fairest basis of allocation. That shows the 1933 assessment to be $24\frac{1}{2}\%$ in excess of my computed value by the composite method in schedule 4" (R. 189). The computed value just referred to was \$63,307,629.00 while the assessment was \$78,832,888, an excess of \$15,500,000 (Exhibit P).

It thus appears that there is no computation of value which will account for the amount of the 1933 assessment, except by applying 1932 assessment figures to the 1933 mileage. (15)

Notwithstanding all this, the Circuit Court of Appeals finds "that there is no evidence as to how the Board reached its result in 1933 or prior assessments." We submit that any one who remains in doubt after this showing as to how the precise amount of the 1933 assessment was arrived at is guilty of a hair-splitting refinement which has no foundation in sound principles of logic. (16) [2504]

* * * * *

2. The amount of the 1932 assessment as originally made and, therefore, as adopted in 1933, was determined from earnings and stock and bond prices of the years 1927 to 1931 and by the use of *milage* prorates of system value. * * * (17) [2505]

It will be noted that paragraph G just quoted states that the system value was allocated to North Dakota "upon the basis of the five factors set forth in paragraph IX of the Complaint", and also upon the factors numbered 3, 4 and 5 and the factors numbered 1, 3, 4 and 5 in said list. The factors referred to in paragraph IX of the Complaint (R. 8) are as follows:

"(1) Miles of all track.

(2) Amount of physical property as measured by cost of reproduction less depreciation.

(3) Cars and locomotives moved one mile.

(4) Tons of freight and passengers moved one mile.

(5) Gross earnings, the gross earnings in North Dakota being computed by adding to the revenues in North Dakota from intrastate traffic a proportion of the revenue from all interstate traffic passing into or through North Dakota equal to the proportion which the miles of track in North Dakota used for moving such traffic bore to the total miles of track used for moving such traffic." * * * "(18 and 19)"

[2506]

B.

In Basing the Assessment Upon Earnings and Stock and Bond Prices of 1927 to 1931, the Board Was in Effect Assessing Values of an Obsolete Period Which Were No Longer in Existence in 1933.

We have seen that the 1932 assessment, which was adopted for 1933, was based upon earnings and stock and bond prices for the years 1927 to 1931. The earnings for these five years and for the following year 1932 were as follows (Ex. D, R. 255):

1927	\$29,202,540
1928	31,294,069
1929	32,457,523
1930	21,912,508
1931	12,669,420
1932	1,290,551 (24)

It will be noted that in 1932, the last year immediately preceding the 1933 assessment, which is now in issue, the system earnings had fallen to \$1,290,551, or about 5% of the 1929 earnings. The 1932 assessment was made in September, 1932, before the amount of the 1932 earnings was known, and therefore, of course, no effect was given to these shrunken 1932 earnings in the 1932 assessment. And when the same assessment was adopted a year later for 1933, it follows that while the low 1932 earnings had then become known, no effect was given to them and the dominating figures in the valuation continued to be those of the years 1927 to 1931 (1927 being six years before the 1933 assessment).

The total corporate stock and bond prices (of which 30.29% represented nonoperating assets not forming a part of the railroad system, Ex. I, R.

265) for the years 1927 to 1932 were as follows (Ex. B, R. 251):

1927	\$590,508,029
1928	606,649,827
1929	609,626,431
1930	571,294,190
1931	461,845,051
1932	296,301,177 [2507]

It will be noted that the total system stock and bond prices (including nonoperating assets) had fallen from \$606,000,000 in 1929 to \$296,000,000 in 1932 or less than half. But the 1932 figure was not considered in making the 1932 assessment. Exhibit G of the Answer quoted above shows that the figures which were used were those of the years 1927 to 1931. And since no effect was given to this reduced value in the 1932 assessment, it follows that no effect was given to it in 1933 when the same assessment was adopted, although by that time the (25) 1932 figures were complete and were well known. The 1933 assessment was, therefore, in effect based upon stock and bond prices of the years 1927 to 1931, ignoring the greatly shrunken values of 1932.

The average of the earnings for the five years 1927 to 1931 was \$25,507,192.00. The average of the earnings for the three years 1930 to 1932, immediately preceding the 1933 assessment was \$11,950,826.00. In other words, the 1932 assessment (and

therefore the 1933 assessment which was in the same amount) was based upon the earnings average of a five year period commencing six years before the 1933 assessment and omitting the immediately preceding year, and which was more than double the average of the three years immediately preceding the assessment and twenty times that of the single year immediately preceding. This indicates the excessive and dominating weight given to the boom period earnings of 1927, 1928 and 1929 in fixing an assessment for 1933, and the complete ignoring of the shrunken depression earnings.

The average of the stock and bond prices for the years 1927 to 1931 was \$567,984,705.00 and the peak figure was the 1929 price of \$609,626,431.00, while the price had fallen in 1932 to \$296,301,177.00, of which only 68.71% represented railroad value. The later figure, as pointed out above, was given no weight in the 1932 assessment and, therefore, none in the 1933 assessment (although by that time it was well known) while dominating effect was given to the boom prices of 1927, 1928 and 1929.

An appraiser valuing securities for probate or other purposes and finding them actually selling currently at \$20 a share in 1933, would scarcely be permitted to appraise them during that year at \$60 a share, merely because they had sold six [2508] years before at \$100 a share, or because \$60 was a five year (26) average. He would not be permitted to value

securities far above their actual current buying and selling price merely because in past years they had had a higher value which no longer existed. And yet in this case the taxing authorities acted even more irrationally than this, because they gave no weight whatever to current figures, either for 1933 or 1932, and gave dominating weight to the large figures which had existed four, five and six years before the date of the assessment.

It is admitted in paragraph L of the state's Answer (R. 31, 32), that if independent computations had been made for 1933, by the methods used in 1932 and described in paragraph G of the Answer (except that these methods would be applied to the reduced figures for the five years ending in 1932 instead of to the five years ending in 1931), the computed value of 1933 would have been reduced by approximately \$13,000,000, and in spite of this no reduction whatever was made in the 1933 assessment.

Petitioner's gross revenues had fallen from \$126,000,000 in 1928 and 1929 to \$55,000,000 in 1932. The traffic had fallen from 10,000,000,000 revenue net ton miles in 1928 and 1929 to 4,000,000,000 in 1932 (R. 65). A careful and thorough analysis of Great Northern traffic commodity by commodity, and of permanent changes which had taken place in transportation conditions, indicated that this shrinkage was due only in part to the depression and that about half of it was due to permanent changes in

traffic conditions which would persist even after the end of the depression and after a resumption of normal general business conditions throughout the country. The permanent changes resulted from diversion of traffic to the Panama Canal, highway vehicles, pipe lines, aeroplanes, etc., to various changes in commercial and agricultural methods which tended to shorten railroad hauls, and to very drastic rate reductions which were due in part to action by the Interstate (27) Commerce Commission and in part to voluntary action by the carrier taken in an effort to hold its remaining traffic against further diversions to competing forms of transportation. This analysis appears on pages 65 to 70 of the record and concludes with an estimate that half of the shrinkage since 1929 is permanent and that the company could not reasonably hope for gross [2509] revenues in excess of \$86,000,000, even after the end of the depression.

Based upon this amount of gross revenue, the General Auditor of the company made a careful analysis of permanent changes which had occurred in operating expenses and estimated that the company could not reasonably expect to earn a net railway operating income of over \$14,000,000, even after a return of normal general business conditions (R. 121, 122).

The permanence of this shrinkage in railroad earnings and the fact that new conditions had caused drastic changes in transportation conditions

and drastic reductions in railroad earnings is recognized in a report of the Committee on Interstate and Foreign Commerce of the House of Representative, 74th Congress, First Session, Report No. 1560 recommending passage of H. R. 3263, a copy of which is attached to this brief as Appendix "C".

From the fact that the actual earnings for the three years preceding the assessment averaged only \$11,950,826.00, and the fact that there was no prospect of increasing these in the future above \$14,000,000, it follows that a valuation based upon average earnings of \$25,507,192.00 (the average for the five years preceding the 1932 assessment) clearly resulted in an assessment which was levied against values which may have existed in the pre-depression boom years, but which had permanently disappeared and which no longer existed in the year 1933. (28)

That a failure to give adequate recognition to changed economic conditions is not within the permissible discretion of an administrative tribunal and that the court will take judicial notice of the present depression, is the effect of the decision in *A. T. & S. F. Ry. Co. v. United States*, 284 U. S. 248, 52 S. Ct. 146. At page 260 this court said:

* * * (here follows quotations from the above decision (29-30) * * *

It would seem to follow that an assessment for 1933 which can only be justified by ignoring depression conditions and going back to the boom years of 1927 to 1929 is not within the permitted discretion of a Tax Board.

In the case of *In re Assessment of Kansas City Southern Ry. Co.*, 168 Okla. 495, 33 P. (2d) 772, the court held that an assessment for 1933 based upon earnings and stock and bond prices for the five years immediately preceding the as- [2510] sessment were so arbitrary that it must be cancelled, upon the ground that the five year period included boom year earnings of an obsolete economic era which no longer afforded a logical measure of probable future earnings. The court said (p. 786, Pac. Rep.):

* * * (here follows quotations from the above decision (30-31) * * *

Our case is stronger than the *Kansas City Southern* case because there the Board had actually attempted to exercise its functions in 1933 and had based its computations upon the five preceding years including 1932 while here the assessment can only be computed by eliminating 1932 entirely and going back as far as six years before the assessment.

It is clearly established therefore, not only by the facts and by sound common sense reasoning but also by the decisions, that a large part of the very apparent excess in the assessment now at issue was levied against values of an obsolete period and against values which no longer existed in 1933.

We next proceed to show that another *parte* part of the assessment was levied against property actually located outside the state. [2511]

C.

Of the total amount of the assessment, approximately \$20,000,000 was levied against properties outside the state and beyond its jurisdiction.

1. The North Dakota trackage consists largely of relatively cheap branch lines. The more valuable terminals and more costly mountain construction are located outside the state.

By far the largest terminals on the Great Northern Railway are at the eastern and western ends of the system, in the Twin Cities and on Lake Superior in the east and on Puget Sound in the west. The estimated cost of reproduction less depreciation of these three terminals alone was \$68,804,121 (Ex. 4, R. 75, 76, 230). The total figure for the entire system in the United States is \$532,538,184 (Ex. 7, R. 232) so that these three terminals comprise about 13% of the total physical property of the system. On the other hand, these terminals include only 53 miles of road (R. 76) out of a total of 7,591 miles (Ex. 6, R. 231). In other words, 13% of the property is included in less than 1/10 of 1% of the mileage at the extreme eastern and western ends. The cost per mile of road in the terminals is about \$1,300,000 as compared with \$40,779.00 for North Dakota (Ex. 7, R. 232). Another way of stating it is that one mile in these terminals contains as much physical plant as 32 average miles in North Dakota.

The total cost of reproduction less depreciation of the property in North Dakota is \$78,190,762 and the mileage is 1917.41 (Ex. 7, R. 232). In other words, the 53 miles in these three terminals contain almost as much physical plant as 1917 miles in North Dakota.

In *Fargo v. Hart*, 193 U. S. 490, 24 S. Ct. 498, the court in attempting to state a very extreme hypothetical case said: “(32)”

“But it is recognized in the cases that if, for instance, a railroad company had terminals in one state equal in value to all the rest of the line through another, the latter state could not make use of the unity of the road to equalize the value of every mile.”

Here we have a specific case falling almost exactly within this statement.

In addition to these three large terminals, there are other smaller terminals [2512] located both in and out of North Dakota as listed on Exhibit 5 (R. 230). But the larger of these smaller terminals are located outside of North Dakota, and there are more of them in proportion to mileage outside the state than inside (R. 76).

Disregarding the terminals and considering only the road itself, the miles in North Dakota are not equal to those on the balance of the system. In North Dakota there are 735 miles of main line and 1183 miles of branches. 61.7% of the total consists

of branches, and the branch mileage is 161% of the main track mileage, while on the balance of the system only 43.5% is branch line mileage (Ex. 6, R. 231, 74, 75). On these branches the traffic is light and it is not necessary to provide so much construction for reducing grades and curves (R. 75).

North Dakota is a relatively level prairie state of simple railroad construction and without large terminals or shops (Complaint paragraph XII, R. 9; Answer, Part II, paragraph I, R. 28). The average mile in North Dakota contains very much less of all the units of construction making up the railroad than an average mile outside. It has only 80.5% as much steel rail per mile, 59.5% as much grading, less than 56% as much bridging, 63.9% as much signal apparatus and no snowsheds (Ex. 3, R. 229, 75). There are fewer stations and fewer division terminals in proportion to miles of road in North Dakota than there are on the balance of the system (R. 75). “(33)”

As a result of all of these conditions, the average mile outside North Dakota contains \$80,076 worth of construction and physical property as compared with \$40,779 in North Dakota, or nearly twice the amount (Ex. 7, R. 232, 77). In other words an average mile of property outside the state is the same in length but greater in depth and breadth, size of rail, number of sidetracks and accessorial structures.

If we had built the entire 7500 miles of line with the same amount of grading, rail, etc., which was used in North Dakota and at the same cost of \$40,000 per mile, the total system cost would have been approximately \$300,000,000 instead of \$564,000,000 (Ex. 7, R. 232). A mileage prorate to North Dakota might then be fair. But in addition to this, we have added an additional \$264,000,000 of plant [2513] to the property lying entirely outside the state of North Dakota. It is when the mileage prorate is applied to this additional \$264,000,000 that our protest arises.

Not only does the average mile in North Dakota contain less physical property, but it also originates less traffic, and carries, less traffic than the average mile outside, and is, therefore, less valuable from the standpoint of earnings. Exhibit 13 (R. 241) shows that North Dakota originates from 645 to 1204 tons per mile in different years as compared with from 990 to 3689 tons for the outside miles (R. 104, 105). Exhibit 14 (R. 241) shows that North Dakota trackage carries from 474,000 to 827,000 tons per mile as compared with from 528,000 to 1,111,000 tons outside (R. 105).

The physical situation is well summarized by this court in *Wallace v. Hines*, 253 U. S. 66, at 69, 40 St. Ct. 435, where the court said:

“As the law is administered, the tax commissioner fixes the value of the total property of each railroad by the total value of its stocks

and “(34)” bonds and assesses the proportion of this value that the main track mileage in North Dakota bears to the main track of the whole line. But on the allegations of the bill, which is all that we have before us, the circumstances are such as to make that mode of assessment indefensible. North Dakota is a State of plains, very different from the other states, and the cost of the roads there was much less than it was in mountainous regions that the roads had to traverse. The state is mainly agricultural. Its markets are outside its boundaries and most of the distributing centers from which it purchases also are outside. It naturally follows that the great and very valuable terminals of the roads are in other states. So looking only to the physical track the injustice of assuming the value to be evenly distributed according to main track mileage is plain.”

2. The outside terminals and costly mountain construction, while concentrated in short mileage contribute as much to transportation service and to system value in proportion to cost and volume of plant as do the cheaper portions of the road where the same investment is spread over more miles.

[2514]

It is obvious that a railroad could not exist and function without terminals. It is in the terminals that separate cars are combined into large trains

so that freight can be moved over the road in large volume, and it is through the destination terminals that the large trains are broken up and delivery effected. Without terminals, cars would have to be moved as they might come upon the road in trains of from one to half a dozen cars and at greatly increased cost and at much higher rates. It is perfectly apparent that the terminals play as large a part in effecting the transportation between consignor and consignee as do the transcontinental tracks. “(35)”

The same thing is true of mountain tunnels. By piercing a mountain with a single mile of tunnel costing a million dollars, we may avoid building a hundred miles of roundabout line at an even greater cost. The single mile of tunnel may contribute as much to the efficiency of transportation as a hundred miles of roundabout trackage. Transportation involves not only the overcoming of space resistance but also all other natural obstacles such as rivers and mountains. Plant which is required to bridge rivers, pierce mountains or elevate traffic over a mountain range contributes as much to the final result as does the trackage which is laid across a level prairie and which overcomes nothing but space.

It follows that a million dollars invested in a single mile of terminals or in a single mile of bridge or tunnel is as much entitled to a return upon every dollar of the investment, as is a million dollars

which is spread out over 100 miles of prairie line. If this were not so, no investor could be found who would provide the funds for construction of the more costly parts of the line. The fact that a million dollars worth of investment is spread over more miles in one state than in another is no indication that it contributes more to the total transportation result or that it is entitled to a larger share of the system value.

About $\frac{1}{3}$ of all operating costs are incurred in terminals (R. 117). As measured by cost, therefore, about $\frac{1}{3}$ of the total transportation effort is expended in the terminals and $\frac{1}{3}$ of the total transportation service is performed there. This would indicate that the use value of the terminals, based on the actual service they perform is a very substantial part of the total use value or [2515] commercial value of the system.

It is true that the system may not earn an adequate return upon its entire cost and its commercial value may be far below its reproduction cost. The "(36)" commercial value of the Great Northern system today amounts to hardly more than one-third of its reproduction cost. But however small the return may be, the money which is invested in tunnels and terminals is entitled to share in that return dollar for dollar with the money which may be spread out over more miles of cheap line in North Dakota.

It is also obvious that whatever value the terminals and costly mountain construction may have is included in the total system value of the property, when that system value is computed upon the basis of earnings or stock and bond prices. The stock and bond prices depend upon the earnings and the earnings are the joint product of all portions of the line and all of the service. They are the result of the terminal and mountain operations as much as they are of the ordinary line trackage. Therefore, when we apportion system value between states, whatever the basis of apportionment may be, we are apportioning a value which includes the value of the terminals as well as that of the miles of road, and we must see to it that the method of apportionment credits back the terminal portion of the system value to the state where they belong and that it does not spread them over intermediate states. These propositions are exiomatic but they are lost sight of in the arguments which are advanced in favor of the mileage prorates of system value and it is, therefore, important that we have them in mind before discussing the effects of the mileage prorates.

With these elementary principles in mind, we proceed to consider the question as to where these terminal values can lawfully be assessed.

3. The right to assess and tax each portion of a railway system belongs solely to the state where that portion is located. “(37)” .

This proposition presents an issue which has been in bitter dispute between the prairie states and the terminal states for many years. The terminal states contend for the right to assess and tax the value of the terminals located within their borders while the intermediate prairie states contend that the terminal [2516] values should be spread equally over the line and that they should share in the assessment.

The argument for spreading the terminal values is that the road is a unit; that the terminals are provided to serve miles of road in the prairie states as much as to serve the miles in the terminal states; and that it is the intermediate road miles which give the terminals their value and that without the intermediate road miles, the terminals would have no value.

It is equally true that the intermediate road miles would have no value without the terminals and that it is, therefore, the terminals which give the road miles their value. It would be equally sound to conclude that some portion of the road mile values should be taken away from the prairie states and credited to the terminal states.

The fact is, of course, that either portion without the other would have nothing but scrap value. It is the combining of the two that raises the value of each from a scrap value to a cost or use value. In this sense, it is true that it is the road miles which

create the use value in the terminals, but it is also true that it is the terminals which create the use value in the road miles. We might go further and say that every single mile of road creates the use value in all of the other miles, for if a single mile of road were permanently removed, the rest of the road would be useless.

But when the road miles in the prairie states are credited with the full use value which results from their combination with the terminals, the prairie states have been fully credited with all of the value that they are entitled to as a "(38)" result of their connection with the terminals. We cannot go further and credit them in addition with some portion of the use value of the terminals, any more than we can credit the terminals, in addition to their own full use value, with some portion of the use value of the road miles. It would be equally sensible to argue that each mile of road, in addition to its own full use value, should be credited with some portion of the use value of all the other miles, because without it the other miles would be useless. To credit one portion of the railroad with a part of the use value of another portion would be to leave the latter portion [2517] without its full use value, and this would be contrary to the fundamental principle expressed above.

Taxes are levied against property to pay for the exercise of the functions of government in the state where the property is located. The state where terminals are located provides the police and fire

protection for the terminal property. It also provides for highway access, education of the children of terminal employes and of all other governmental functions. The intermediate states provide none of these things and incur no governmental expenses because of the terminal property. It is a universal rule that property should be taxed where located, and there is not the slightest reason for any exception in the case of railroad terminal property.

However, an abstract discussion of the underlying principles seems unnecessary, because it is so firmly established by the decisions of this court that terminal values can be assessed only in the states where the terminals are located and that they cannot be assessed in part by the intermediate states.

In *Fargo v. Hart*, 193 U. S. 490, 24 S. Ct. 498, this court said:

“It is obvious, however, that this notion of organic unity may be made a means of unlawfully taxing the privilege, or property outside the “(39)” state, under the name of enhanced value or good will, if it is not closely confined to its true meaning. So long as it fairly may be assumed that the different parts of a line are about equal in value, a division by mileage is justifiable. But it is recognized in the cases that if, for instance, a railroad company had terminals in one state equal in value to all the rest of the line through another, the latter state could not make use of the unity of the road to equalize the value of every mile. That would be

taxing property outside of the state under a pretense.”

In *Wallace v. Hines*, 253 U. S. 66 at 69, 40 S. Ct. 435, the court said:

“As the law is administered, the tax Commissioner fixes the value of the total property of each railroad by the total value of its stocks and bonds and assesses the proportion of this value that the main track mileage in North Dakota bears to the main track of the whole line. But on the allegations of the bill, which is all that we have before us, the circumstances [2518] are such as to make that mode of assessment indefensible. North Dakota is a State of plains, very different from the other states, and the cost of the roads there was much less than it was in mountainous regions that the roads had to traverse. The state is mainly agricultural. Its markets are outside its boundaries and most of the distributing centers from which it purchases also are outside. It naturally follows that the great and very valuable terminals of the roads are in other states. So looking only to the physical track the injustice of assuming the value to be evenly distributed according to main track mileage is plain.”

In the recent case of *Rowley v. C. & N. W. Ry. Co.*, 293 U. S. 102, 55 S. Ct. 55, the court said:

“Where, as in this case, the evidence requires a finding that the railroad in one of the states

reached by the system is clearly shown to be worth much less than the average value per mile of the system, an apportionment on mileage necessarily assigns an excessive amount to that state, and the use of that basis as the sole measure for apportionment must be condemned as arbitrary."

See also *Pittsburgh, C. C. & St. L. Ry. Co. v. Backus*, 154 U. S. 421, 14 S. Ct. 1114; *Union Tank Line Co. v. Wright*, 249 U. S. 275, 39 S. Ct. 276; *Southern Ry. Co. v. Kentucky*, 274 U. S. 76, 47 S. Ct. 542.

In these cases, the apportionment had been attempted upon the basis of miles of road only and not upon a combination of several factors, but they establish the proposition very definitely that the power of assessing and taxing terminals belongs exclusively to the states where the terminals are located and that the terminal values cannot be spread for purposes of assessment over the intermediate states, and that any method of apportioning system value which accomplishes that result is necessarily unlawful.

In the case now at bar the attempted apportionment was based upon a composite of five different factors, and it remains to consider only whether the unlawful spreading of terminal and other out-state values is avoided by the composite factors used by the State of North Dakota. [2519]

4. The factors used in North Dakota computations unlawfully credit to North Dakota values of terminals and mountain construction actually located in other states.

We have already quoted paragraph G of the Answer in which the state admits that the computations upon which the 1932 assessment was based were made by apportioning the value of the entire railroad system to North Dakota by certain allocation factors. The five factors as enumerated in paragraph IX of the "(41)" Complaint upon which the first computation is based were as shown in the following list which also shows the ratio of each for North Dakota for 1932 as taken from Exhibit N.

1. Miles of all track	20.19%
2. Physical property	13.84%
3. Car and locomotive miles	19.90%
4. Ton and passenger miles	18.65%
5. Gross earnings	18.45%

Paragraph G of the Answer states that one computation was made by the use of all five of these factors, another by the use of factors 3, 4 and 5 and still a third by the use of factors 1, 3, 4 and 5.

The number of cars moved one mile and engines moved one mile in and out of North Dakota is computed by measuring the mileage moved between the stations of origin and destination and does not include any movement in switching service in the terminals. Similarly the number of tons moved one

mile and passengers moved one mile includes only the movement between the stations of origin and destination and does not include any switching movements (R. 78, 115).

In other words, these factors are dependent entirely upon miles of road over which the shipment moves and they are not affected in any way by the location of terminals. A state containing terminals is not for that reason credited with any more of these miles of movement over the road, and a state without terminals is not for that reason credited with any less.

The gross revenues credited to North Dakota include all earnings wholly within the state and a portion of through earnings on shipments moving in any part within [2520] the state, equal to the proportion which the miles of movement on that shipment in North Dakota bear to the total miles of movement of that particular shipment. "(42)" Here again the apportionment is made upon the basis of miles of road over which the shipment moves and is in no wise affected by the fact that there may be terminals in one of the states and no terminals in another (R. 115). 92% of all of the gross revenues credited to North Dakota consist of a mileage prorate of through revenue, as the traffic in and through that state is almost wholly interstate (Complaint Par. VIII, Answer Par. E.).

The gross revenue ratio on each shipment is therefore necessarily identical with the ton mile,

road mile or track mile ratio on that particular shipment. The combined ton mile and passenger mile ratio for North Dakota for the five years ending in 1932 was 18.65% while the gross revenue factor is 18.45%. The two would, of course, be identical if rates were the same in and out of the state, and the gross revenue factor for North Dakota is slightly less only because the average revenue per ton mile and passenger mile on business which moves partly in North Dakota is slightly less than the average on traffic which does not touch North Dakota.

It is apparent, therefore, that the proportion of car and engine miles, ton and passenger miles and gross revenue in any state depends entirely on the miles of road in and out of that state over which the traffic moves, and that it does not depend at all on the location of terminals. As between two states of equal road mileage and equal traffic density these factors would apportion the system value 50-50. The fact that there might be valuable terminals in one state and none in the other would not affect any one of these ratios. If the terminals were originally in state A, the ratio would be 50-50, and if they were later removed out of state A and into state B, the ratio would still remain 50-50, and the system value including terminal values would still be apportioned equally. "(43)" In other words, these factors spread the entire system value, including whatever terminal values it may contain, equally

over all miles of haul, and regardless of the location of terminals in one state or the other.

This would appear still more plainly if the line of road were all located in [2521]in state A, with the shops and terminals located just across the boundary in state B. Here 100% of the car and engine miles, ton and passenger miles and gross revenue (the miles of haul factors) would be credited to state A and nothing to state B. If these three factors were used alone, the entire system value, including whatever value the terminals and shops in state B might have, would be assessed and taxed in state A, and state B, which actually contained the terminal and shop properties, would have nothing to tax.

We can again vary the case by moving the state boundary a little further from the terminals and leaving 10% of the road mileage in state B. This state would now be credited with 10% of the system value including only 10% of the terminals which are located 100% within her borders. Again, if the state boundary were at the center of the line, state B would then be permitted to tax 50% of her own terminals and state A would be credited with the other 50%. In other words, the right to tax the terminal values would depend not upon the location of the terminals but upon the location of the road miles. The state with the terminals would get no more than its road haul proportion of the system value and the state without terminals would get no less, and we could transfer

the terminals from one state to the other without affecting the apportionment of value.

The theory underlying the use of the "miles of haul" factors seems to be that, while the track mile factor reflects nothing but the proportion of trackage in a state, the three miles of haul factors reflect varying amounts of traffic "(44)" density and, therefore, tend to correct the errors in the miles of track factors when used alone.

It is true that these three "miles of haul" factors reflect differences in traffic density as well as miles of road haul, and if one of the states had twice as much traffic density as the other, on the same road mileage, its miles of haul ratio would be twice as great. In other words, these ratios are not necessarily the same as the ratio of miles of road, since they are affected by varying traffic. But it would still be true that an apportionment made on these three factors would be without regard to the actual location of the terminals. With equal road mileage in two states, the density might be twice as great in the state without [2522] terminals, in which case $\frac{2}{3}$ of the system value including $\frac{2}{3}$ of the terminal value would be allocated to that state. If the terminal state were the one with double the density, it would thereby be credited with $\frac{2}{3}$ of the system value. But this would be in recognition of the greater traffic density and greater earning power of its miles of road, and not in recognition of the location of its terminals. And whatever the difference in traffic density might be, the

terminals could still be transferred from one state to the other without affecting the apportionment of value between them in the slightest. The point that we are making is that by this method of allocation, the state containing the terminals is not credited with their entire value but that on the contrary the terminal values are spread equally over all states either in proportion to track miles or miles of haul.

Because of its lighter traffic density, North Dakota's three "miles of haul" ratios are slightly less than its track mile ratio and, therefore, the composite five factor ratio credits North Dakota with slightly less of the terminal values "(45)" than would the track mile ratio if used alone. But this slight reduction gives no sufficient recognition to the smaller property value and density of the North Dakota road miles as compared with the larger property value and density of the miles of road outside, and it does not even tend to restore any terminal values whatever to the states where they belong.

It is true that the track mile factor is based upon miles of all track including side and yard track, instead of upon miles of road or miles of main line only. This factor includes all of the yard tracks in the terminals and so gives some slight extra credit to the terminal states. But it also counts every mile of cheap branch line in North Dakota and treats each as being equal to a mile of main line or to a million dollar mile in the Cas-

cade Tunnel, across the Columbia river bridge, or in the large city terminals. The Great Northern line in North Dakota is a veritable gridiron of these cheaply built branch lines as shown on the map (Ex. 1, R. 227). The proportion of branch lines to main lines is 161% in North Dakota and only 76% on the balance of the system (Ex. 6, R. 231). The proportion is more than twice as great in North Dakota. As a result of treating [2523] each of these cheap branch lines as being equal to any other mile on the system, the "miles of track" factor, while it gives some slight credit to the terminal states for the yard tracks, gives even more credit to North Dakota for its cheap branches and the net effect is that the miles of track ratio for North Dakota is the highest of the five factors used. It was 20.19% in 1932 as compared with the five factor average of 18.20%. The total miles of all track in the three large terminals, including all yard tracks, is only 537 miles, of which 53 miles are main line, leaving 484 miles of side track (R. 76, 86). Any credit to the terminal states for these, is more than offset by the fact that there are 1,183 "(46)" miles of branch lines in North Dakota which are given undue credit by the track mile ratio (Ex. 6, R. 231). It follows that this factor, instead of restoring terminal values to the terminal states, abstracts still more of them because of the large branch line mileage in North Dakota.

And even if the North Dakota branch lines did not afford this offset, the crediting of only 484 miles of yard tracks to the terminals (we ignore whatever offset there may be on account of yard and side tracks in North Dakota) is only about 6% of the 7591 miles of road on the system (Ex. 6, R. 231). And when this track mile factor is averaged with several others which give no credit for yard tracks in terminals, this 6% is thereby diluted and reduced to 1 or 2%. As 13% of the total plant is in the three terminals, and as $\frac{1}{3}$ of the total operating expense is incurred in terminals, this small credit of 1 or 2% to the terminal states is totally inadequate.

It appears therefore that 4 of the 5 factors used by the state, viz., track miles, car and engine miles, ton and passenger miles, and gross revenue, all tend to spread the terminal values and credit them unduly to North Dakota. The fifth of the five factors used by the state is the physical property ratio, and as this is based on reproduction cost less depreciation, it alone gives full credit to the terminal states for their terminal properties. However, this is only one of the five factors used and has only $\frac{1}{5}$ weight in the result. And the entire five factors were used in only one of the three computations in 1932, referred to in paragraph G of the Answer. In the other two computations, the physical property [2524] ratio was omitted. Five factors were used in one computation, four in the second and three in the third. In other words,

the three road mile factors were each used three times, the track mile factor was used twice and the physical property factor was used only once, making a total of 12 factors. It follows that in "(47)" the final result the physical property ratio was given $1/12$ weight and the mileage ratios were given $11/12$ weight. The effect of using the physical property ratio in this way is, therefore, that instead of spreading the entire terminal values equally over miles of road or miles of haul, only $11/12$ of the terminal values are so spread and $1/12$ is credited to the state where the terminals are located.

Combining the physical property ratio of 13.84% with the other four raises the composite average to 18.20%. When the five factor apportionment is combined with that based upon four factors and three factors as described in paragraph G of the answer, the composite ratio is increased to 18.76% or 5% above the physical property ratio. And this 5%, applied to the 1932 system value of \$415,278,961.00 as computed by the state (Ex. P. R. 277) (which is based largely upon boom period figures) credited North Dakota with more than \$20,000,000 of outside values in the 1932 assessment which was adopted for 1933. In spite of the fact that the physical property ratio if used alone would give full credit to the terminal states, the fact remains that when it is combined with the other factors, and given a weight of only $1/12$, its effect is so far lost that, even with this factor in-

cluded, more than \$20,000,000 of outside values are still credited to the State of North Dakota.

Our conclusion that the factors used by the state necessarily spread terminal values over intermediate states might be put into syllogistic form as follows:

(1) The terminals and mountain construction located outside North Dakota have an actual use value which is a part of and included in the system earnings and stock and bond value. “(48)”

(2) The entire system value, including the terminal values is apportioned among the states.

(3) Not more than $1/12$ of these terminal values is apportioned to the states where the terminals are located. [2525]

(4) It follows that $11/12$ of the terminal values are necessarily spread over all states, regardless of location.

The defendants contend that the use of these mileage factors has been approved by this court in *Rowley v. C. & N. W. Ry. Co.*, 293 U. S. 102, 55 S. Ct. 55, and in other cases. It would be more accurate to say that assessments based upon mileage prorates have been before this court in cases where they were not condemned. It is not correct to say that they were approved because, while they were before the court, they were not in issue. There was no evidence in the *Rowley* case and no contention by the railroad that the apportionment based upon miles of haul did in fact credit any terminal values to Wyoming. That contention was

made solely with reference to the miles of track factor. It was not pointed out to this court nor even claimed in that case that the miles of haul factors in themselves credited any terminal values to Wyoming, and indeed this may not have been the fact in that case. On the contrary, the sole contention was that the miles of track factor was the only one which wrongfully credited terminal values to Wyoming, and it seems to have been assumed by all parties that the miles of haul factors were sound in this respect. This court simply held that where the single miles of track factor, which would have been unlawful if used alone, was averaged with several other factors which were apparently conceded to be correct, the combination of the single wrongful factor with several other proper ones did not in itself defeat the assessment. In our case, however it is an established “(49)” and mathematically demonstrable fact that four of the five factors necessarily credited North Dakota with terminal values, and that these four wrongful factors were used eleven times in the aggregate in determining the 1932 assessment, while the single lawful factor was used only once, and, therefore, given a weight of only $1/12$ in the final result. It is demonstrated that the use of the four wrongful factors raised the composite average by 5% and credited North Dakota with more than \$20,000,000 of outside values.

If by any stretch of interpretation the Rowley case can be regarded as affirmatively approving

the use of mileage factors in the case of a railroad like the Great Northern and in the case of a state like North Dakota, and where the record [2526] contains a clear demonstration that these factors spread terminal values over the intermediate states, the decision should clearly be qualified or limited in its operation. If such a decision had been made upon such a record as this, it should clearly be reversed. We submit that this conclusion is undebatable.

5. Some additional reasoning to the same effect.

We believe that the foregoing arguments conclusively establish the proposition that the state's apportionment factors actually and unlawfully credit terminal values to North Dakota and that this proposition does not require any further support. However, there is a great deal of further support in the record, and we hesitate to leave this question without referring to it. If the court feels already convinced by the foregoing argument that terminal values have in fact been credited to North Dakota, the next six pages may be skipped. If any doubt upon this question still remains, we believe that the following arguments will settle it. "(50)"

One way to consider the track mile and miles of haul ratios, is to consider the track mile ratio as an attempt at measuring the relative amount of property in North Dakota by miles of track, and the miles of haul ratio as being an attempt to measure the proportion of the total service or business of the company which is carried on in North Da-

kota by miles of haul. A mile of track is used as a measuring stick to measure the amount of physical plant inside and outside the state, and a mile of haul (whether of tons, passengers, cars or engines) is used as a measuring stick to measure the service performed inside and outside the state. But in using a mile of track as a measure of plant volume or property volume, we are using a measure that contains only half as much volume when used inside the state as when used outside the state. It indicates that there are 20% as many of these measures inside the state as there are on the system, but as the measures used inside the state are only half-size, the ratio is entirely misleading.

A similar result takes place when we use miles of haul to measure relative service, because this measuring stick measures nothing but road haul service and entirely fails to measure terminal service, amount of equipment repairs, amount of plant provided, etc. [2527]

We must remember that railroad service includes at least four elements: (1) providing the plant and equipment, (2) keeping it in repair, (3) performing the terminal service, and (4) moving the traffic over the rails. The three North Dakota factors showing miles of road movement reflect only the fourth element out of the total service, i. e., the road haul. But for every mile of movement outside the state, the company has to provide twice as much fixed plant on the average, and also to repair and maintain twice as much plant, as well

as performing a heavy "(51)" terminal service. In this respect an average mile of movement outside the state represents more total service than an inside mile, and while the three "miles of haul" factors indicate that about 18% of the miles of haul are in North Dakota, this is no indication whatever that 18% of the total business is done there or 18% of the total money earned there, since the balance of the system, in addition to providing the other 72% of the miles of haul, also provides nearly all of the terminal and repair service and a proportionately larger part of the total plant.

An average car mile in switching service in the large terminals, which are located in other states, requires about 15 times as much effort and costs about 15 times as much in operating expenses as the average car mile on the road (R. 114-117). In using a car mile ratio, ten or fifteen cents worth of transportation service in North Dakota is assumed to be an equivalent unit with \$3.00 worth of transportation service in the Minnesota and Washington terminals, simply because both are spread over a mile of ground (R. 114).

We have pointed out above that if the entire road mileage were located in one state, with the terminals, shops and general office buildings just across the boundary in another, the miles of haul ratios would allocate to the first state 100% of the entire property including the property located in the second state. We have an actual situation on the Great Northern Railway which is very close

to this. Our line which carries iron ore from the Minnesota iron ranges to the Lake Superior docks is located 90 miles in Minnesota and ten miles in Wisconsin. However, the 10 miles in Wisconsin contain the yards, terminals, repair shops and docks, and the actual reproduction cost is about \$16,000,000 in each state. So far as actual value of plant is concerned, the two states are equal. But Minnesota has 90% "(52)" [2528] of the total miles and of the miles of haul, and the five factor ratio including the physical property factor would be about 80%. With an aggregate value of \$32,000,000, Minnesota, under the five factor formula, would assess her \$16,000,000 plant at 80% of the total, or \$25,600,000 and Wisconsin would assess her \$16,000,000 plant at \$6,400,000 (R. 96, 114, 139).

The situation as to the movement of North Dakota wheat to the Twin City and Lake Superior terminals is the same in principle and differs in fact only in that the state boundary is nearer to the center of the haul instead of close to the terminals (R. 140). In this situation, North Dakota and Minnesota each have 50% of the miles of haul and therefore, North Dakota instead of being credited with 90% of the terminal values is credited with only 50%. But in both cases, the terminal values are spread equally over the miles of haul without regard to the location of the terminals. These illustrations show the absurdity of apportioning system value according to track miles, or miles of haul, because thereby terminal values are abstracted

from the state where they are located and credited to the states where the road haul is performed.

We also pointed out above that one mile of tunnel in one state might avoid the necessity for 100 roundabout miles of track, and that on every shipment, the car miles, ton miles, engine miles, etc., which would amount to 100 miles of haul if performed on a roundabout track, might be reduced to one if handled through a tunnel, merely because of the fact that the company had put its investment into a tunnel instead of into a roundabout track. Here again we have an actual illustration of this on the Great Northern. The towns of Skykomish and Leavenworth, Wash., separated by a mountain barrier, could have been connected by 150 miles "(53)" of 1% grade over the summit or by 50 miles of line using tunnels (R. 77). The company chose the latter alternative at great cost, and by the erection of a costly and valuable plant, thereby reducing from 150 to 50, the number of track miles, car and engine miles, ton and passenger miles and the mileage prorated of gross revenue between these two points in Washington. Because a more costly, more efficient and more valuable plant was built between Skykomish and Leavenworth, the amount of through revenue and the amount of system value allocated to this segment of line [2529] under the North Dakota formula are reduced to one-third. The better and more concentrated the railroad plant becomes the less it is worth. On the other hand, the value which is thus taken away from the im-

proved part of the line is spread over the unimproved portions. The effect is to give to North Dakota and other states a correspondingly larger percentage of the total system track miles, operating miles and service miles and, therefore, of the system value.

Presumably the heavier tunnel investment reduced operating expenses and thus increased system net earnings and stock and bond values, so that under the North Dakota method, North Dakota and every other state would claim a higher percentage of a higher system value, and therefore, several million dollars more value in North Dakota because of the creation of valuable property in Washington (R. 77, 117-118). Because Washington contained a more costly plant, North Dakota would be given a higher value and Washington a lower value than would be the case if we had constructed a cheaper plant in Washington or had chosen the alternative of constructing more miles of less usefulness and less value in Washington.

And after the original tunnel line had been completed between Skykomish and Leavenworth, Wash., the company built a still longer tunnel at a lower grade "(54)" and made other line revisions at a cost of \$26,000,000 which effected a further shortening of 18 miles of distance and presumably reduced operating expenses and increased the system value accordingly (R. 77). The effect of this improvement in Washington was to still further reduce the percent of all mileage factors

in Washington and to correspondingly increase them all in North Dakota and other states, thus again giving to North Dakota under the state's formula a yet higher percentage of a still higher system value, and giving Washington a smaller percentage, not because of any improvement in North Dakota but because of the creation of additional plant in Washington. An assessment by North Dakota on this basis is clearly an assessment upon property in Washington and is clearly condemned in *Fargo v. Hart* and similar cases.

The objections which we have been making to the use of these miles of haul ratios are objections that would apply to any intermediate state. There are other weaknesses in the use of these ratios which apply particularly to North Dakota. [2530] For example, an average carloading in North Dakota is around 16 tons while the average carloading on the balance of the system is nearly 30 tons (R. 116, 130, 135). This is due to the large amount of less than carload tonnage moving in lightly loaded cars on North Dakota branch lines (R. 135).

While a locomotive on the iron ore carrying lines of the Great Northern in Minnesota hauls 170 cars or twelve or thirteen thousand tons per locomotive mile, a locomotive on the branch lines in North Dakota would haul about two to four hundred tons on the average. These particular engine miles in North Dakota have an actual value in volume of traffic handled equal to only 1/70 of those on the

Minnesota ore lines (R. 116). The state's tax expert conceded that car and engine miles moving smaller tonnage should not be given as much credit as car and engine miles with heavier tonnage (R. 201).

Exhibit 12, Schedule B, Line 7 (R. 239) shows that the movement of a thousand tons of freight one mile in North Dakota requires \$7.19 worth of effort while the average movement of a thousand tons on the balance of the system requires \$9.89 worth of effort. The ratio is nearly 10 to 7. This is, of course, because of the terminal and shop expenses in the other states. As the average carload in North Dakota is 16 tons and the average carload on the rest of the system is 30 tons, it is easy to compute that the movement of an average car one mile in North Dakota requires $11\frac{1}{2}\text{¢}$ worth of effort while the movement of an average car one mile on the balance of the system requires 29.68¢ worth of effort.

Still another vice of all of the ratios reflecting miles of movement is that they ignore mileage made in switching service in the terminals and consider only the miles made in roadhaul between terminals (R. 78, 115). If there should be five or six miles of switching service after the car reaches a terminal, each of these miles costing as much as 15 roadhaul miles, the effect would be the same as if we excluded 75 to 90 miles of roadhaul service outside the state on each trip while including the entire mileage made in North Dakota.

We have seen that in computing gross revenues earned in North Dakota, interstate revenues are allocated in proportion to miles of road only (R. 87), and that 92% of all the traffic in North Dakota is interstate (R. 70). Approximately one- [2531] third of the service in an average through haul (as measured by cost) is performed in the terminals and two-thirds on the road (R. 117). The miles made in terminals are given no weight whatever in computing the gross revenue ratio, although they "(56)" should be entitled to about fifteen times as much weight as road miles (R. 79, 115). It follows that a prorate of interstate revenue in proportion to miles of road is virtually a repetition of the track mile ratio and accords an excess of credit to a state like North Dakota.

This concludes our argument upon this point. We submit that the spreading of terminal values over North Dakota is demonstrated:

(1) By the fact that the terminal values are included in the system value which is apportioned among the states and that since they are not credited to the terminal states, they must be spread over all states.

(2) By the fact that a track mile is a measuring stick of smaller volume when used in North Dakota than when used outside, and that miles of haul do not measure any part of the total railroad service except the haul over the road, and entirely fail to measure that part of the service consist-

ing of the providing of the plant, the maintenance of plant and repair of equipment and the terminal service. As these are performed more largely outside the state, the three "miles of haul" factors necessarily spread them over all states in proportion to miles of road haul only, and thus give undue credit to North Dakota. * * * "(57)" [2532]

Conclusion

In conclusion we submit that the use of pre-depression prices and of mileage prorates in making the assessment is not only proven but admitted; that these methods necessarily assess values which have ceased to exist, and properties in other states, and treble the actual current value of the property; that after computing a valuation by such methods, the addition or subtraction of a few dollars before placing the amount on the assessment rolls, does not immunize the assessment against attack; that the use of such methods is not within the permissible range of discretion of taxing officers; that an attempt by the taxing officers to justify the assessment which ends in failure and in a confession that it cannot be justified, and that it is \$15,000,000 in excess of the fairest computed values is in itself sufficient proof that the assessment was either arbitrary, irrational, or fraudulent; and that it is not necessary for the taxpayer to submit to such assessments repeatedly, before the courts can grant relief.

Petitioner has already paid 60% of the taxes levied against the assessment in question (R. 81).

A temporary injunction (75) has been issued restraining the collection of the balance of the taxes pendente lite.

We submit that the assessment which was levied in 1933 was wholly invalid; that further taxes levied under that assessment cannot lawfully be collected; and that the injunction against the further collection of such taxes should be made permanent.

We believe that the court should find that no assessment can be made under any proper or lawful methods in excess of 60% of the present assessment upon which we have already paid taxes, and submit that the making of a substitute assessment for any larger amount should be enjoined.

Respectfully submitted,

F. G. DORETY,

C. J. MURPHY

Solicitors for Petitioner.

November 2, 1935. [2533]

NORTHERN PACIFIC RAILWAY COMPANY

GRAPH ILLUSTRATING TYPES OF 1934 FREIGHT MOVEMENTS

LEGEND

1" VERTICAL = 2,000,000 TONS 1" HORIZONTAL = 100 MILES

1 SQUARE INCH = 200,000,000 TON MILES

